Ambulatory Blood Pressure Report Management System

92506

Operations Manual

070-0932-00 Rev. C

Spacelabs Medical considers itself responsible for the effects on safety, reliability and performance of the equipment only if:

- *assembly operations, re-adjustments, modifications or repairs are carried out by persons authorized by Spacelabs Medical, and*
- *the electrical installation of the relevant room complies with the requirements of the standard in force, and*
- *the equipment is used in accordance with the operations manual.*

Spacelabs Medical will make available, on request, such circuit diagrams, component part lists, descriptions, calibration instructions or other information which will assist appropriately qualified technical personnel to repair those parts of the equipment which are classified by Spacelabs Medical as field repairable.

Spacelabs Medical is committed to providing comprehensive customer support beginning with your initial inquiry through purchase, training, and service for the life of your Spacelabs Medical equipment.

CORPORATE OFFICES

U.S.A.

Spacelabs Medical, Inc.
5150 220th Ave SE
Issaquah, WA 98029
Telephone: 425-657-7200
Telephone: 800-522-7025
Fax: 425-657-7212

Authorized EC Representative UNITED KINGDOM

Blease
Beech House, Chiltern Court
Asheridge Road, Chesham
Buckinghamshire HP5 2PX
Telephone: 44 (0) 1494 784422
Fax: 44 (0) 1494 794414

Caution:

Rx Only **US Federal law restricts the devices documented herein to sale by, or on the order of, a physician.**

⚠ **Before use, carefully read the instructions, including all warnings and cautions.**

Table of Contents

Contents Page

Printing and Sending Files

Maintenance and Troubleshooting

Appendix A — Symbols

Introduction

Contents

Overview

The Ambulatory Blood Pressure (ABP) Report Management System assesses a patient's cardiac health via blood pressure readings taken during daily activity for 24 to 48 hours, or more.

The ABP system consists of a standard ABP monitor, a personal computer (PC), host software application, and an electronic interface between the monitor(s) and the PC system(s). The monitors used with the ABP system include the 90207 monitor and 90217 Ultralite™ monitor.

Warnings, Cautions, and Notes

Warning:

- ***The ABP Report Management System and any non-medical equipment that is connected to the ABP Report Management System should not be allowed within the patient's vicinity (patient vicinity extends 6 feet or 1.83 m beyond the perimeter of the bed, table or chair, and 7 1/2 feet or 2.29 m above the floor).***
- ***Remove the arm cuff from the patient before defibrillation. There is a risk of defibrillation failure, burns and equipment damage if defibrillator paddles contact the arm cuff or ABP monitor. In the special case where the patient has a defibrillator at home, family members and in-home caregivers who could be responsible for attempting defibrillation must be advised of this hazard.***
- ***Explosion hazard. Do NOT use in the presence of flammable anesthetics.***

Caution:

- **Do NOT use acetone, ether, freon, petroleum derivatives, or other solvents to clean the ABP monitor.**
- **Spacelabs Medical's ABP monitors are designed to meet IEC 60601-1-2 EMC immunity requirements. The presence of strong EMI fields generated by electronic, surgical, or diathermy instruments in close proximity to the unit may cause trace noise or input overload conditions. Refer to the Electromagetic Compatibility appendix in the 90207 service manual (P/N 070-0189-xx) or the 90217 service manual (P/N 070-0502-xx).**
- **To avoid operator injury, refer to your PC owner's manual for proper ergometric use.**

- **Microsoft Windows requires a minimum of 250 MB free hard drive space available at all times for virtual memory, print spooling, and caching. Failure to comply with these requirements will degrade system performance or cause the system to crash.**
- **U.S. Federal law restricts this device to use by or on the order of a physician.**

Note:

- *This device is intended to be used as an ABP monitor analysis system for the purpose of screening for blood pressure disturbances.*
- *A 24-hour patient record with 240 readings requires a maximum of 50 KB of hard drive space. A 48-hour patient record with 240 readings requires a maximum of 50 KB of hard drive space.*
- *A qualified physician should review the results of the ABP reading before treatment or non-treatment of any patient.*
- *Installing the application on an operating system not specified on the 92506 Ambulatory Blood Pressure Report Management System data sheet (P/N 061-1283-00) is not supported.*
- *The regional/language settings for the operating system must be identical to that of the application.*

Starting the Program

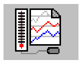
When the ABP Report Management System software is loaded on your computer a Client application icon is placed on the desktop.

To initiate the Client application:

Note:

If this is the first time starting the Client application since installation, refer to Setting up a New User on page 1-3.

1 Power ON your computer.

2 Double-click the **Client application** icon  to start the program.

Note:

The User Profile is automatically set to Administrator and Physician during initial startup. Your screen may be different, depending on your software version.

3 Type in your **User ID** and your **Password** at the **User Login** window and then click **Login** (*Figure 1-1*).

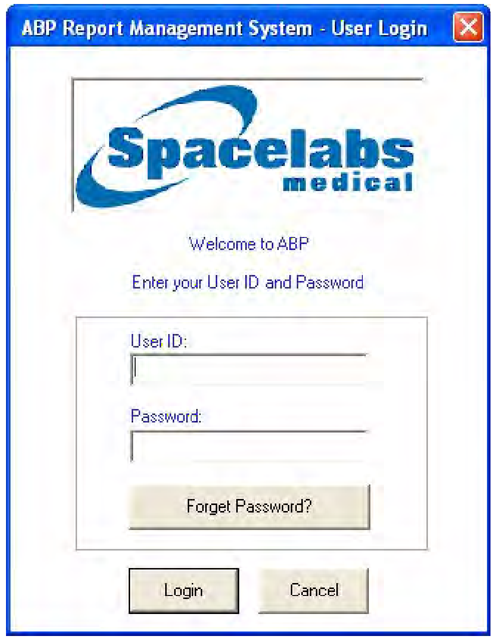


Figure 1-1: User Login window

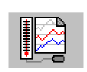
Note:

*If this is the first time you have logged on, a message displays, and you will be required to change your password. Click **OK** to close the confirmation box. Enter the old and new password information and then click **OK**.*

The Client application starts and the **Main Menu** displays.

Setting up a New User

The first time you log on to the system the software will prompt you to establish a User ID.

1 Double-click the **Client application** icon  to start the program. A confirmation box appears (*Figure 1-2*).

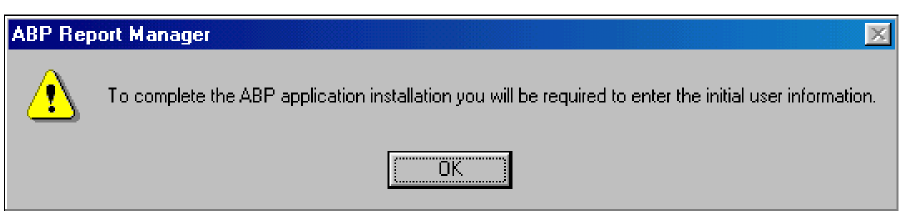


Figure 1-2: Initial startup message

2 Click **OK** to open the **New User** dialog box.

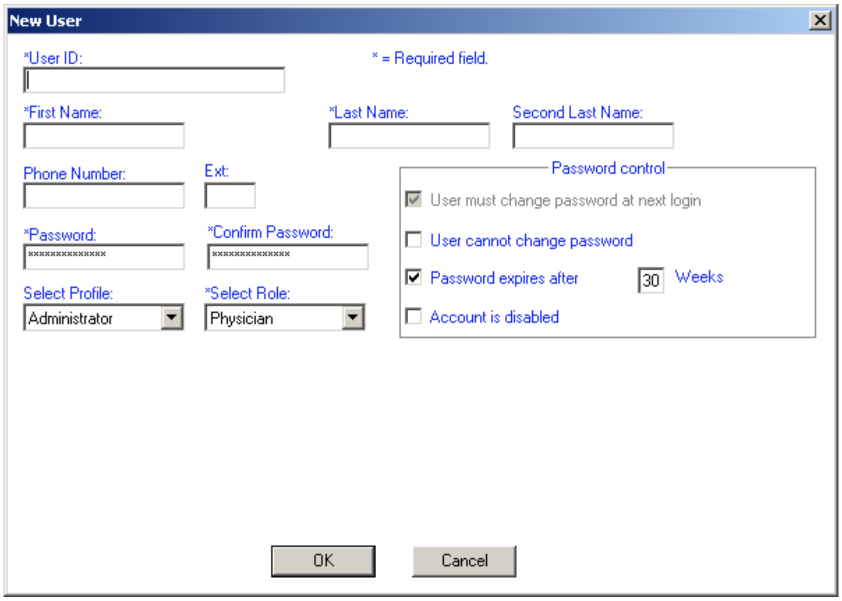


Figure 1-3: New User dialog box

3 Fill in the required fields: **User ID**, **First Name**, **Last Name**, **Password**, **Confirm Password**, and **Select Role**.

4 Click **OK**.

Note:

- *For additional information on configuring this dialog box, refer to Adding User Profiles on page 6-13.*
- *The User Profile is automatically set to Administrator and Physician during initial startup. Your screen may be different, depending on your software version.*
- *The Password you enter in this dialog box is temporary. You will be required to change it immediately after the Client application adds you as a user.*

5 Click **OK** when the confirmation box appears.

6 Enter your **User ID** and **Password** and then press ENTER at the **User Login** window.

7 Click **OK** at the message stating that the initial password has expired.

8 Enter the old and new password information and then click **OK**.

The Client application starts and the **Main Menu** displays.

Inactivity Logon

If the application remains inactive for more than 15 minutes, you must log on again before continuing.

If you click **OK** and log on again, unsaved information will still be available to save, and all previously opened reports and other windows will remain open.

If you click **Cancel**, all unsaved information will be lost, and open reports and windows will be initialized the next time you log on to the application.

ABP Main Menu

The **Main Menu** appears immediately after you log on.

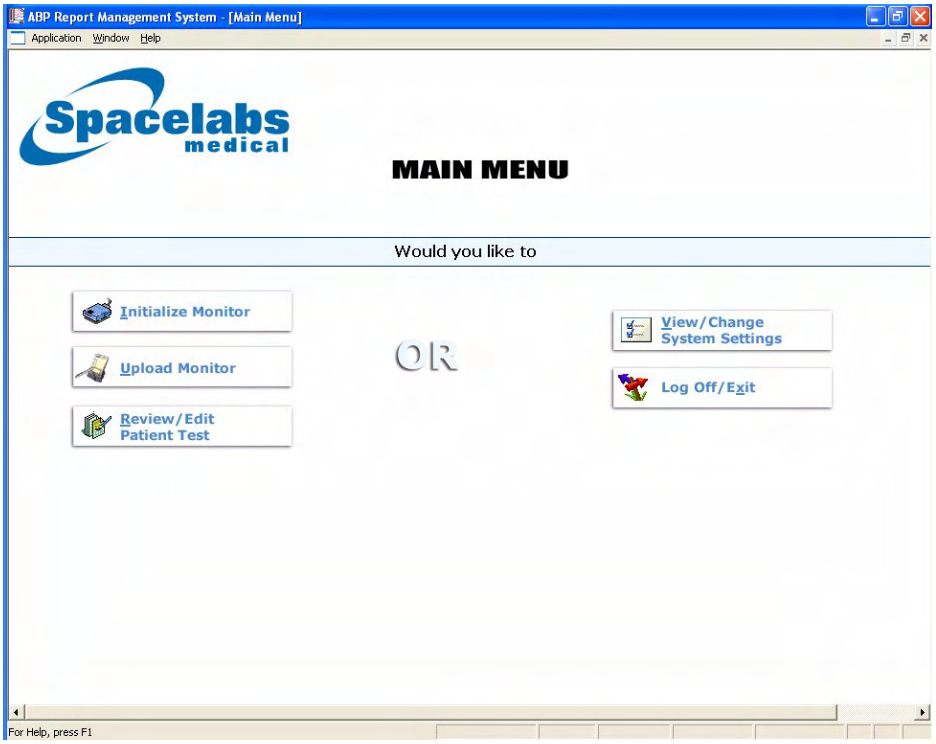


Figure 1-4: Main Menu

The following options are available from the Main Menu:

- **Initialize Monitor** (refer to *Initializing the Monitor* on page 3-1)
- **Upload Monitor** (refer to *Acquiring Patient Data* on page 4-1)
- **Review/Edit Patient Test** (refer to *Reviewing the Report* on page 5-1)
- **View/Change System Settings** (refer to *System Setup* on page 6-1)
- **Log Off/Exit** (refer to *Logging Off the System* on page 1-6)

Click the appropriate button to continue.

Note:

*The **Select group** list box only appears if multiple groups are set up on the ABP Report Management System.*

Logging Off the System

When you are finished working with the Client application, be sure to log off:

1. Click **Close** or **Cancel** to return to the **Main Menu** from any other location.
2. Click **Log Off/Exit** from the **Main Menu**.

User Permissions

This manual covers all of the normal operating procedures of the Client application. However, the ABP Report Management System assigns access permission based on user type: administrator, user, physician, technician, or nurse. Depending on your user type, you may have access to some, most, or all of the actions that are covered in this manual.

The following table shows which user types have access permission to various tasks.

Table 1: User Permission

Serial No.	Task	User Permission (Yes/No)						
		System Administrator	Physician		Nurse		Technician	
			Admin	User	Admin	User	Admin	User
1	Create a new patient record by entering the demographics in the **Initialization** wizard while importing from a file.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Modify an existing patient's demographics.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	Delete a patient record and demographics.	Yes	Yes	No	Yes	No	Yes	Yes
4	Confirm a patient's demographics.	Yes	Yes	Yes	Yes	No	No	No
5	Create a new ABP report/test by uploading from the monitor or by importing from a file.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	Modify data in an existing ABP report/test (monitor start time, indications, medications, etc.).	Yes	Yes	Yes	Yes	No	Yes	No
7	Delete an ABP report/test.	Yes	Yes	No	Yes	No	Yes	Yes
8	Confirm an ABP report/test.	Yes	Yes	Yes	No	No	No	No
9	Print a report or send a report through e-mail.	Yes	Yes	Yes	Yes	No	No	No

Table 1: User Permission (continued)

Serial No.	Task	User Permission (Yes/No)						
		System Administrator	Physician		Nurse		Technician	
			Admin	User	Admin	User	Admin	User
10	Create a custom report format for printing or sending through e-mail. (The **Report Format** tab on the **System Settings** dialog box will not be displayed.)	Yes	Yes	No	Yes	Yes	Yes	Yes
11	Delete an individual reading from the set of readings in the ABP report/test.	Yes	Yes	Yes	Yes	Yes	No	No
12	Modify monitor settings (change the minimum and maximum values of the blood pressure readings, etc.).	Yes	Yes	Yes	Yes	No	No	No
13	Modify statistical settings (change the sleep and wake periods and the number of readings/hour, etc.).	Yes	Yes	Yes	Yes	No	No	No
14	Modify a patient ID in the report.	Yes	Yes	No	Yes	No	Yes	No

Electronic Signature

The Client application may be configured to stamp a confirmed test with the electronic signature of the confirming physician. Any time a physician who is logged on to the Client application confirms a test, the Client application stamps the test with the physician's electronic signature, as well as the date and time the test was confirmed. The confirmation information appears on the hard copy printout as well as in the electronic display of the report.

System Navigation

The Client application is capable of displaying multiple, independent windows, enabling you to have several different reports open at once. Each report opens in a separate window which can be moved, resized, opened, closed, and printed.

To activate a window:

1 Click the window,

-OR-

2 Press CTRL+TAB to cycle through the open windows.

You can also open the **Window** menu on the menu bar and select from the list of open windows

Note:

- *When an object appears lighter than the rest, or dimmed, this means that the object is not available. An object may be unavailable if:*
  - *You do not have permission to access this object (refer to User Permissions on page 1-6 for more information).*
  - *Your version of the Client application does not support the object's function.*
  - *Patient demographics or report information has been confirmed.*

Menu Bars

Click an item on the menu bar to open a list of menu commands corresponding to that item.

Figure 1-5: Example of a menu bar

You can use either the mouse or the keyboard to select a item in a menu.

Using the Keyboard

To access menu items using the keyboard:

- Hold down the ALT key and press the appropriate hot key (the underlined letter) to activate a menu. For example, hold down the ALT key and press **R** to open the **Procedure** menu.
- Press the appropriate underlined hot key to select an item from the menu that appears. (The ALT key is not needed once the menu is active.) The up arrow and down arrow keys may also be used to highlight an item in a menu.
- Press ENTER to select the highlighted item.
- Press ALT to close menus, or use the left and right arrow keys to move to other menus.

Toolbars

Toolbars consist of a row (or rows) of icon buttons located just below the menu bar. Toolbar buttons provide shortcuts to the most commonly used functions. All of the buttons have a corresponding menu command that will perform the same function.

Figure 1-6: Example of a toolbar

The icons presented in the toolbar change according to what is shown in the active window.

You may also choose which toolbars are displayed and whether or not the text labels are ON or OFF.

To change these options:

- Right-click anywhere in the toolbar area. A shortcut menu appears.
- Options are active when a check mark is next to the name. If you make any changes to these options, your selections will become active after the program is restarted.

Report Manager

Contents

Overview

The **Report Manager** is the starting point for accessing and organizing patient records. Click **Review/Edit Patient Test** on the **Main Menu** to access the **Report Manager**.

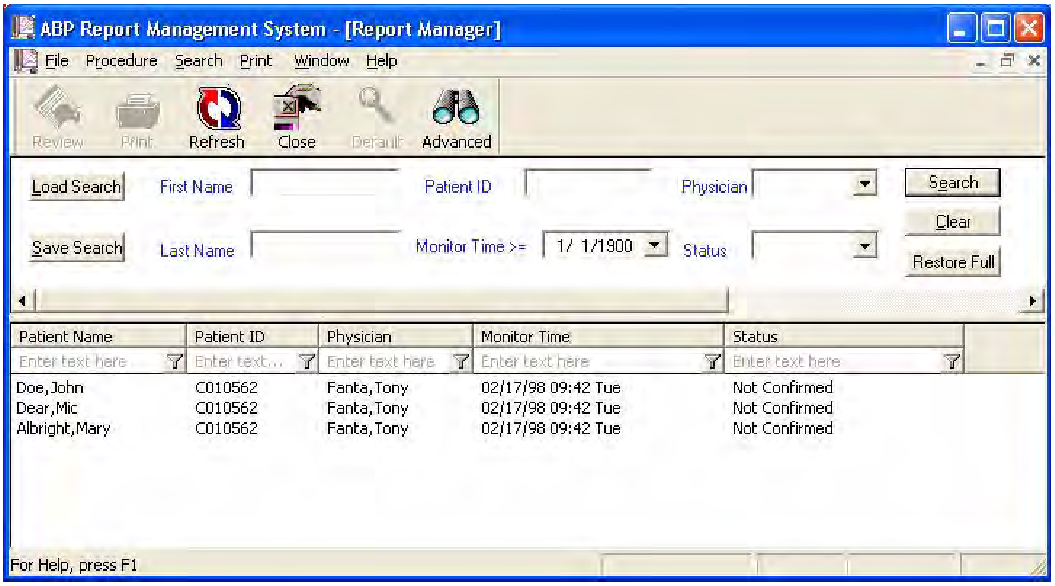


Figure 2-1: Report Manager

Note:

*To return to the **Main Menu**, click the **Close** icon on the toolbar at the top of the **Report Manager** window. (This will also close all open reports.)*

Displaying Reports

Default/Advanced Search

When the **Report Manager** opens, the default patient search options display. When searching for a particular patient's record, you can provide one or more details of the record for which you are searching. The more details you provide, the more accurate the search results will be. (All fields except **Monitor Time** are empty by default. The default value for **Monitor Time** is **01/01/1900**.)

The default search fields include **First Name**, **Last Name**, **Patient ID**, **Physician**, **Monitor Time**, and **Status**.

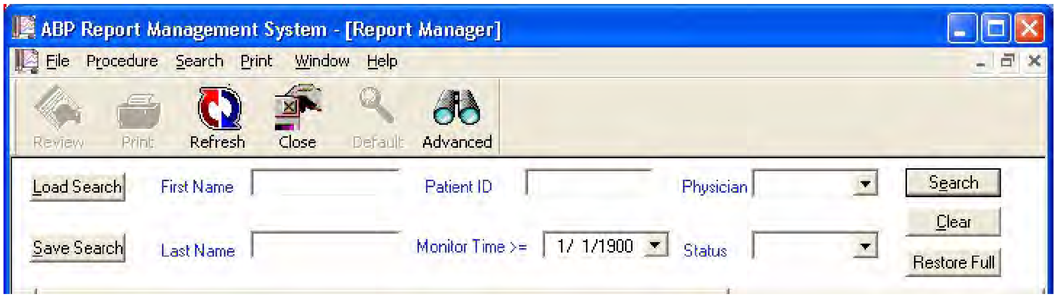


Figure 2-2: Default search options

Advanced search enables you to search on multiple conditions at the same time.

Click **Advanced**  on the toolbar to display the advanced search options.

Figure 2-3: Advanced search options

To display the default search options again, click **Default**  on the toolbar.

Performing a Search

To perform a default search:

1. Specify as many factors as you can for the search.
2. Click **Search**.

To perform an advanced search:

1 Click **Advanced**.

2 Click the **Field** arrow and select an option from the list. The options available include: **Medications**, **Indications**, **Interpretations**, **Confirming Physician**, **Nurse**, **Physician**, **Status**, **Monitor start date**, **Monitor end date**, **First Name**, **Last Name**, **Second Last Name**, **Patient ID**, **Date of Birth**, **Gender**, **Race**, **Height**, and **Weight**.

3 Specify search conditions using a combination of the **Field**, **Operator**, and **Criteria** boxes.

4 Click **Add to Search** to add a search condition to the box below the **Field**, **Operator**, and **Criteria** boxes.

In *Figure 2-4*, the final search condition was achieved as follows:

	Field	Operator	Criteria
First search criteria entered	Last Name	Equal To	Doe
Click **Add to Search**			
Second search criteria entered	First Name	Equal To	John
Click **Search**			

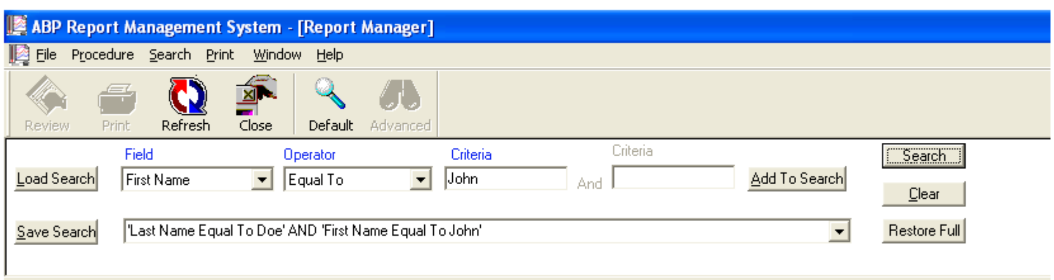


Figure 2-4: Example of search combinations

To clear all search conditions specified and refresh the list of records with the default search conditions, click **Restore Full**.

To clear all values across all fields, click **Clear**.

Saving Search Factors

After specifying a set of factors for a search, you can save these factors for later use in case you need to search on these factors or a similar set of factors again.

To save search factors:

1. Click **Save Search**.
2. Specify in the **Save As** dialog box the folder where you want to save the file, and then specify a file name for the set of factors (*Figure 2-5*).
3. Click **Save**.

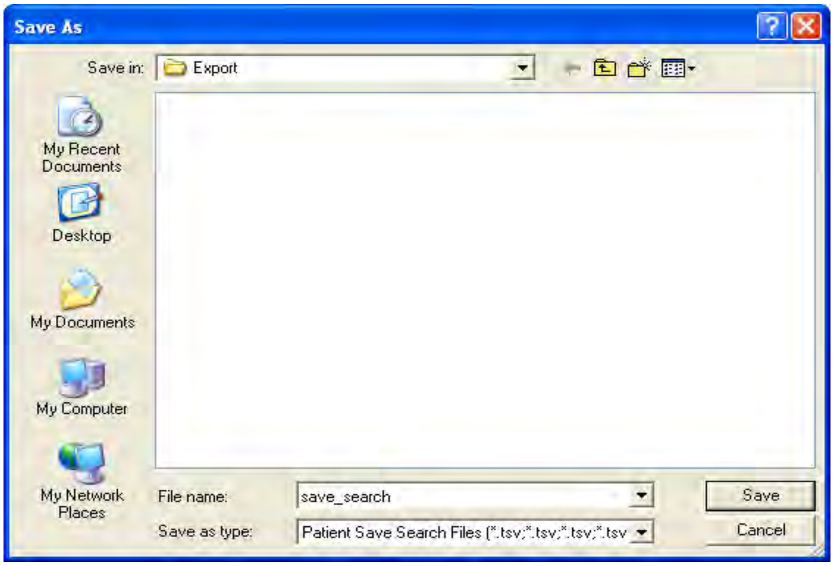


Figure 2-5: Save As dialog box

Loading Search Factors

If you previously used the **Save Search** button to save a set of search factors, you can recall and use this search file.

To load a previously saved search file:

1 Click **Load Search**.

2 Browse from the **Open** dialog box to the folder containing the saved set of search factors and then specify the file name (*Figure 2-6*).

3 Click **Open**.

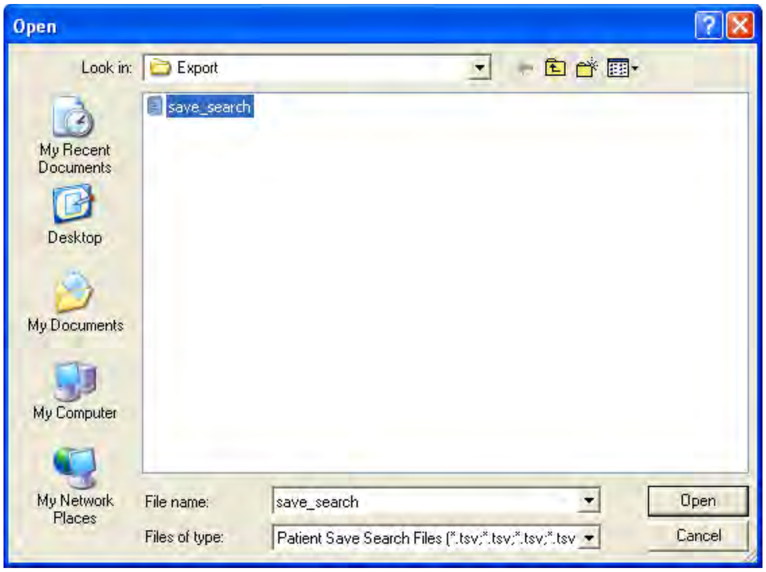


Figure 2-6: Open dialog box

Sorting Patient Reports

The patient records listed in the **Report Manager** are displayed in table format with each row organized into columns of information for a single patient record. Click a column heading to sort all the displayed records according to the information in that column in either descending or ascending order.

Figure 2-7: Click a column heading to sort

Quick Find Feature

The row directly below the column headings can be used to quickly locate a specific report in the list. Each column contains the text, **Enter text here**. Click in the desired column box and type the appropriate data for the patient record you wish to locate.

Figure 2-8: Type text into a Quick Find edit box

For example, to locate the record for a patient with a last name of Smith, click in the **Enter text here** box in the **Patient Name** column and type **Smith**. The **Report Manager** window displays only those records that match the information you typed. If you enter only the first letter of the patient's last name, the list displays all the records that begin with that letter.

To return to the normal display of the patient records, delete the text you entered in the **Enter text here** box, or click **Refresh**.

Tracking Open Windows

Open the **Window** menu on the **Report Manager** menu bar to display the viewing options of **Cascade** or **Tile**.

- Select **Cascade** to display all open windows overlapping each other.
- Select **Tile** to display all windows so that no window is obscured by any other.

Each open window is listed at the bottom of the list. The window that is currently active is indicated by a check mark.

Opening a Patient Report (Importing)

To open a patient report from the **Report Manager**, double-click the record you want to review or edit (refer to *Reviewing the Report* on page 5-1).

Report files generated with previous versions of ABP that used the extension *.rpt* can be imported into the present system by selecting **Open** from the **File** menu. (Current version *.abp* files not listed in the **Report Manager** can also be imported in this manner.)

To open (import) a patient report:

1. Select **Review/Edit Patient Test** from the **Main Menu**.
2. Select **Open** from the **File** menu.
3. Click the **Look In** drop-down arrow and browse to the folder where the file is located (*.abp*, *.rpt*, *.g*, or *.mon* file). Refer to *Figure 2-9*.

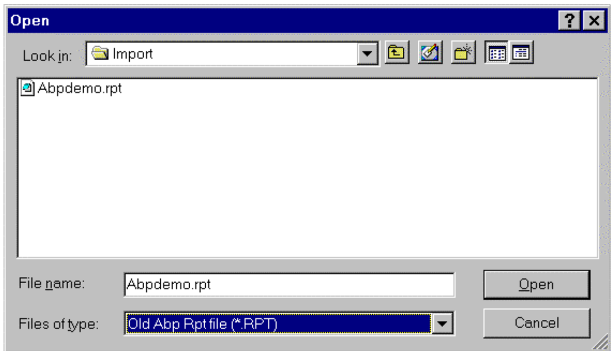


Figure 2-9: Open dialog box

4. Select the file to import and click **Open**. The **Acquisition Wizard** guides you through the steps necessary to open the file.
5. Click **Finish** in the **Acquisition Wizard** to open the patient's record in the ABP system and make it available for editing.
6. Click **Close** on the toolbar to return to the **Report Manager**.

Opening Multiple Reports

The **Open Multiple** feature enables you to import multiple reports (*.abp*, *.rpt*, *.g*, and *.mon* files) simultaneously and assign them to a physician.

To open (import) multiple reports:

1. Select **Review/Edit Patient Test** from the **Main Menu**. The **Report Manager** opens.
2. Select **Open Multiple** from the **File** menu. The **Open** dialog box opens (*Figure 2-10*).

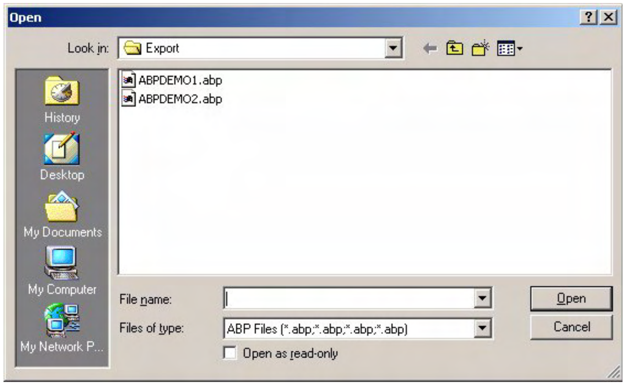


Figure 2-10: Open dialog box

3. Click the **Look in** arrow and browse to the folder where the report files are stored.
4. Select one or more report files from the list and click **Open**.

Note:

You may open files of multiple types by selecting ***.*** *in the* ***Files of type*** *text box.*

The **Multiple Open Report File** dialog box opens (*Figure 2-11*).

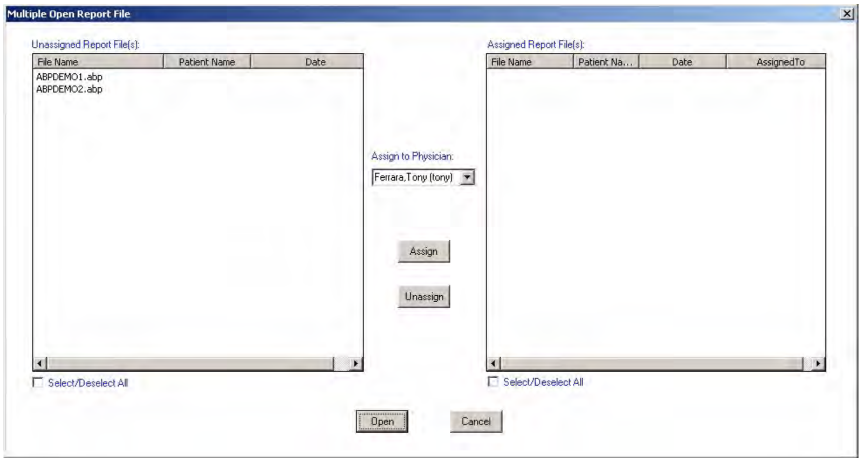


Figure 2-11: Multiple Open Report File dialog box

The files you selected are listed under **Unassigned Report Field(s)** on the left side.

5 Select a file from the list.

Note:
To select more than one file, press and hold the CTRL key and click the additional file names.

6 Select a physician from the **Assign to Physician** list.

7 Click **Assign** to move the selected file(s) to the **Assigned Report Field(s)** list.

Note:
*To unassign an already assigned file, select the file name under **Assigned Report Field(s)** and click **Unassign**.*

8 Click **Open** to import the assigned files.

9 Click **OK** when the successful import message appears (*Figure 2-12*).

Figure 2-12: Import successful message

The files are now available in the **Report Manager**.

Saving a Report

Saving in *.abp* Format

To save a report in *.abp* format:

1 Select a patient record in the **Report Manager**.

2 Select **Save** from the **File** menu.

3 Browse to the folder where you want to save the files, and click **OK**.

Note:
The default folder is: C:\Spacelabs\Export.

4 Click **OK** at the confirmation message.

Performing the steps above creates a file in the designated folder with the patient's name, patient ID, and the date of the report as the file name. The file name extension is *.abp*.

Saving in Other Formats

Entire patient reports or partial information may also be saved (or exported) in a variety of other formats. You can also convert the entire report into an Adobe Acrobat .pdf file.

Note:

The Adobe Acrobat software must be purchased and installed on your workstation before attempting to convert the patient reports to .pdf files. The application may be rendered inoperable if an attempt is made to convert the report to .pdf and Adobe Acrobat is not loaded on the workstation.

Several file extensions are available to differentiate between the different sections of the report. These files may be opened in a standard text editor, such as Windows Notepad. All of these file types are in a comma- separated value (CSV) format, enabling your to export them into a spreadsheet program (for example, Excel).

The following table lists the various options and their corresponding file extensions.

Table 1: File Extensions for Report Sections

Report Page to Save/Export	File Extension
Cover Page	*.txc*
Raw Data Table	*.txr*
Hourly Data Table	*.txa*
Caliper Summary	*.txs*
Complete Patient Data	*.pdf*

To save the report sections in a different format other than *.abp*:

1. Select a patient record in the **Report Manager**.
2. Select **Save As** from the **File** menu to open the **Export Wizard** (*Figure 2-13*).

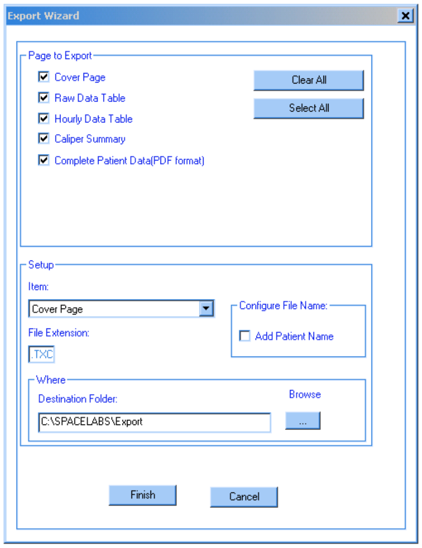


Figure 2-13: Export Wizard

3 Select the appropriate pages to save or export from the **Page to Export** area of the **Export Wizard** dialog box.

4 Select the **Add Patient Name** check box from the **Configure File Name** area of the **Export Wizard** dialog box, if you want the patient's name to appear in the file name.

Note:

The default file name consists of the patient ID and the date and time when the report was generated. The patient name is optional.

5 Specify the **Destination Folder** where you want to save the file(s).

Note:

The default folder is C:\Spacelabs\Export*.*

6 Click **Finish**.

Figure 2-14 displays examples of four files created using the procedure specified above. The *.pdf* file is not shown.

Note:

The ***Add Patient Name*** *box was* ***not*** *checked when the files were generated – only the Patient ID is noted in the file names.*

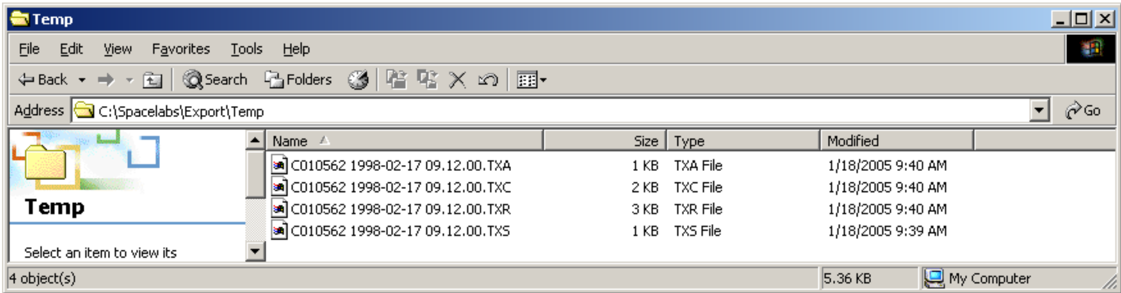


Figure 2-14: Example file entries

Note:

*Files generated by the **Save As** command (file extensions .t** and .pdf) cannot be imported back into the ABP report management system.*

You can open the files listed in *Figure 2-14* using any standard text editor (for example, Windows Notepad). You can export the files that are in CSV format to a spreadsheet program using the standard Windows copy and paste procedures.

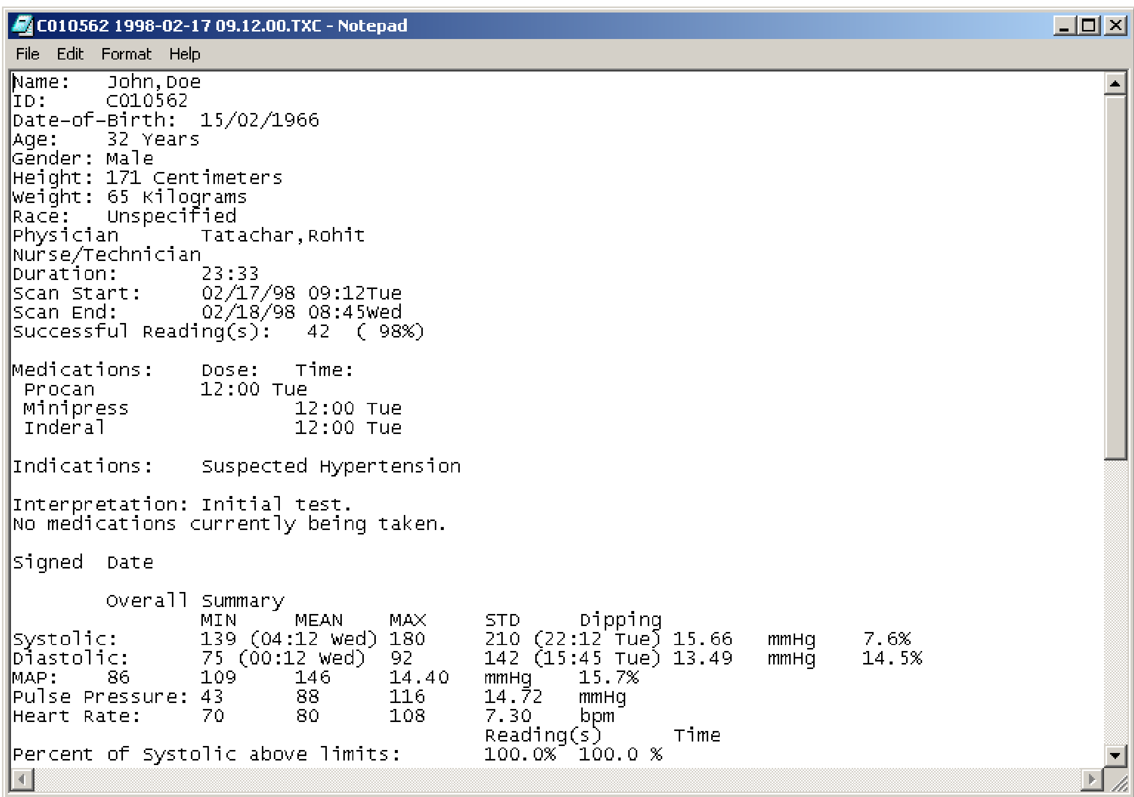


Figure 2-15: Sample .txc file

Initializing the Monitor

Contents

Overview

To prepare for a patient recording, you must prepare the ABP monitor and attach the cuff to the patient. Refer to the operating instructions that came with your monitor for additional information.

To record data from a patient, first initialize the monitor.

1. Connect the ABP monitor to the ABP Report Management System using the monitor interface cable.
2. Start the Client application to display the **Main Menu**.
3. Click **Initialize Monitor** to start the **Monitor Initialization Wizard**.

Entering Patient Information

The **Monitor Initialization Wizard** opens when you click **Initialize Monitor** on the **Main Menu** (*Figure 3-1*).

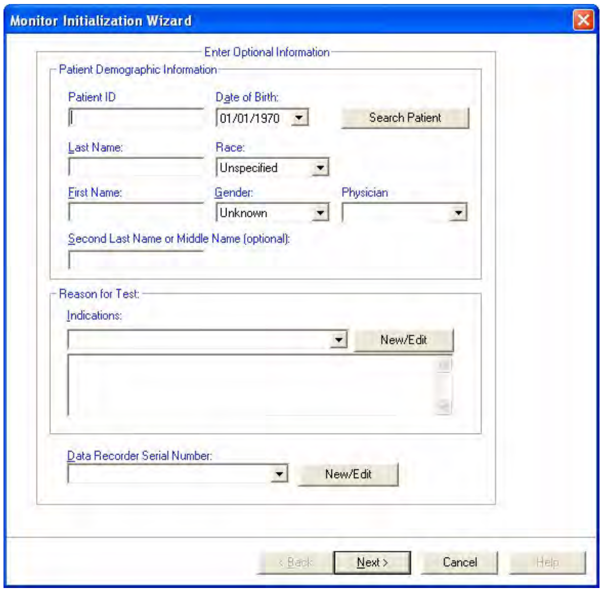


Figure 3-1: Monitor Initialization Wizard

Existing Patients

If the patient has been tested before, the demographic information already exists in the ABP Report Management System.

To search for the patient's name:

1. Click the **Search Patient** button in the **Patient Demographic Information** area of the **Monitor Installation Wizard** to display the **Patients List** dialog box (*Figure 3-2*).

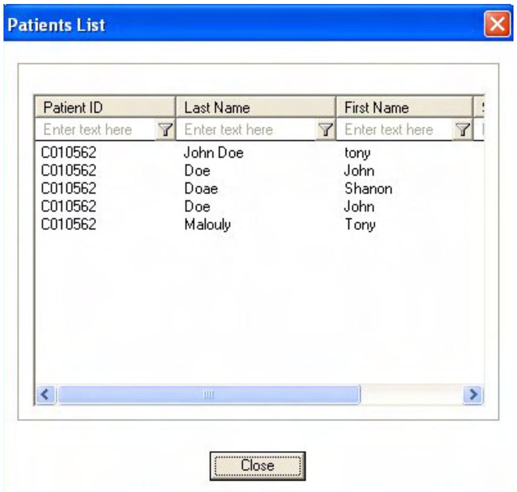


Figure 3-2: Patients List dialog box

2. Select the patient's name from the list and click **Close**.

   The patient information displays in the **Patient Demographic Information** area of the **Monitor Installation Wizard**.

Note:
*To quickly locate a patient in the list, begin typing the appropriate information in any of the **Enter text here** boxes below each column title. The closest match will display at the top of the list. For more information, refer to Quick Find Feature on page 2-6.*

3. Select the name of the physician from the **Physician** list box.

   Continue with *Optional Information* on page 3-3.

New Patients

For new patients, enter the appropriate information in each text box under **Patient Demographic Information**. (Press TAB to move from field to field.)

Select the name of the physician from the **Physician** list box.

Note:

- *The **Second Last Name**, **Date of Birth**, **Race**, and **Gender** fields are optional.*
- *You may enter a maximum of 64 characters in each name box. However, the Client application displays only the first 52 characters of the combined name text boxes in the **Report Manager** window. The name and patient ID may be truncated for printing purposes.*

Optional Information

The following steps are optional. Skip to *Monitor Initialization* on page 3-3 if you do not wish to include any of this information in the patient's report.

To select optional information:

1 Select an item from the **Indications** list in the **Reason for Test** area.

Note:

*The indications list may be edited. Click **New/Edit** to add, delete, or edit the available selections. Any changes are saved automatically.*

2 Select the ABP **Data Recorder Serial Number** from the available list.

Note:

*This list can be edited. Click **New/Edit** to add, delete, or edit the available selections. Any changes you make will be saved automatically.*

Monitor Initialization

After completing the patient demographic information in the **Monitor Initialization Wizard**, click **Next** to select various settings for the ABP monitor (*Figure 3-3*).

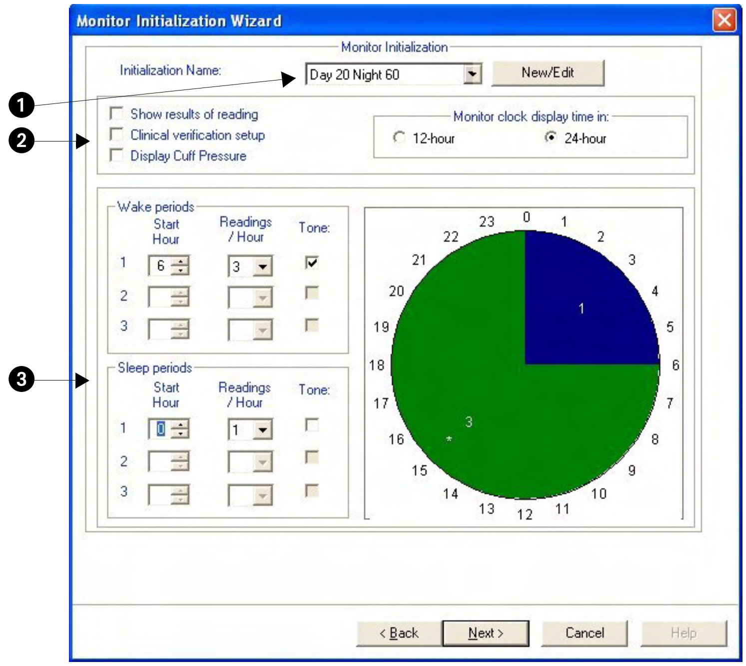


Figure 3-3: Monitor Initialization Wizard — Monitor Intialization

❶ **Initialization Name** list box — Select from a list of preconfigured initialization settings.

❷ Monitor display settings — Select ABP monitor settings.

❸ Period settings and pie chart — Make adjustments to wake and sleep periods as desired. The pie chart reflects the total wake time and total sleep time settings.

Existing Configurations

To select from existing monitor initialization configurations:

1. Select an option from the **Initialization Name** list. The appropriate settings for your selection display automatically.
2. Click **Next** to display the **Monitor Initialization Wizard** dialog box (*Figure 3-4*).

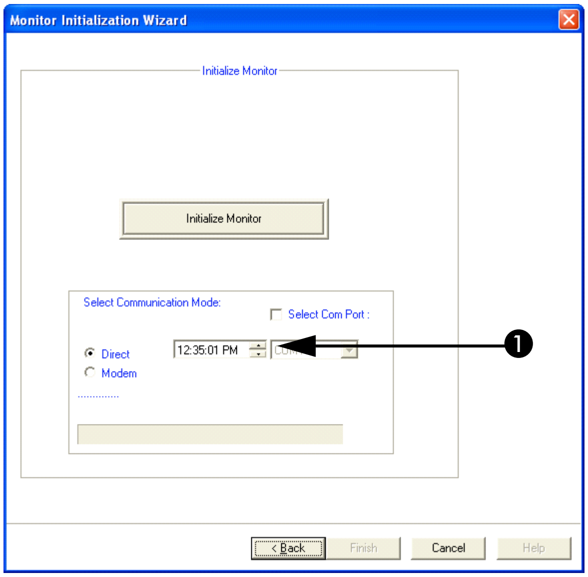


Figure 3-4: Monitor Initialization Wizard — Initialize Monitor

Note:

In the time box (➊), type or select the upload time if you want the upload time to be different from the system time.

3. Click **Initialize Monitor** to complete the initialization process.
4. Click **Finish** to return to the **Main Menu** when the system has finished initializing the monitor (indicated by a fully shaded progress bar).

Note:

Monitor initialization configurations may also be uploaded by modem connection.

Adding a Configuration

To add a new monitor initialization configuration:

1. Click **New/Edit** at the top of the **Monitor Initialization Wizard** dialog box (*Figure 3-3*). The **Monitor Initialization List** dialog box opens.
2. Type a name for the new configuration in the **Item** text box, and then click **Add**.
3. Click **Close**.
4. Select the desired monitor display settings (refer to ❷ in *Figure 3-3*).
   - Select the **Show results of reading** check box to display the reading results on the ABP monitor after each blood pressure reading.
   - Select the **Clinical verification setup** check box to detect blood pressure levels as low as 40 mmHg (the cuff will always bleed to 40 mmHg).
   - Select the **Display Cuff Pressure** check box to display the cuff pressure on the ABP monitor while the cuff is pumping and bleeding.
   - The **Monitor clock display time in** options determine how the time appears on the ABP monitor: either in a 12-hour or 24-hour (military) format.
5. Configure the **Wake periods** and **Sleep periods** as necessary. The physician may require that the blood pressure readings occur more often during certain times of the day, and less often during other times of the day.
   - Make changes to **Start Hour** and **Readings/Hour** as desired.
   - If the **Tone** check box is selected, an audible tone will precede each blood pressure reading. (In most situations, ensure that **Tone** is not selected for sleep periods.)
   - Once a period is defined, the pie chart on the right automatically updates to reflect the changes. Refer to *Figure 3-3*.
   - The pie chart reflects the sleep and wake period settings with numbers (representing the readings per hour), asterisks (***** ; indicating that the tone is enabled), and colors (each period is color-coded to correspond with the clock display).
6. Click **Next** after completing the initialization settings.

Note:

The ABP Report Management System automatically saves your changes and updates global monitor initialization values to reflect the changes.

7. Click the **Initialize Monitor** button to complete the initialization process (*Figure 3-4*).

Note:

- *If the monitor is not properly connected to the system, two error messages will appear. Click **OK** to close the messages, and properly connect the monitor to the system.*
- *If the ABP Report Management System does not detect the monitor, it may be necessary to select the serial communications port for the monitor. Click the **Select Com Port** check box to activate the list. Select an item from the list, and click **Initialize Monitor**.*
- *To initialize the monitor over the modem, select **Modem** under **Select Communication Mode**.*

8. Click **Finish** to return to the **Main Menu** when the system has finished initializing the monitor (indicated by a fully shaded progress bar).

Editing a Configuration

To edit an existing monitor initialization configuration:

1. Select the configuration from the **Initialization Name** list.
2. Click **New/Edit** at the top of the **Monitor Initialization Wizard** dialog box (*Figure 3-3*).
3. Make changes to the monitor settings as necessary (refer to *Adding a Configuration* on page 3-5).
4. Click **Next**.
5. Click the **Initialize Monitor** button to complete the initialization process (*Figure 3-4*).
6. Click **Finish** to return to the **Main Menu** when the system has finished initializing the monitor (indicated by a fully shaded progress bar).

Summary

The ABP monitor is now ready to record patient information. Refer to the ABP monitor's operating instructions for further instructions on attaching the cuff to the patient.

Acquiring Patient Data

Contents

Overview

After you have recorded data from a patient, you must copy that data to your workstation for analysis.

To acquire and analyze data:

1. Connect the ABP monitor to the ABP Report Management System using the monitor interface cable.
2. Start the Client application.
3. Click **Upload Monitor** on the **Main Menu**.

The **Acquisition Wizard** opens and guides you through the steps necessary to acquire the patient record from the recording media.

Performing Data Transfer

The **Acquisition Wizard** starts with the **Data Transfer** process (*Figure 4-1*).

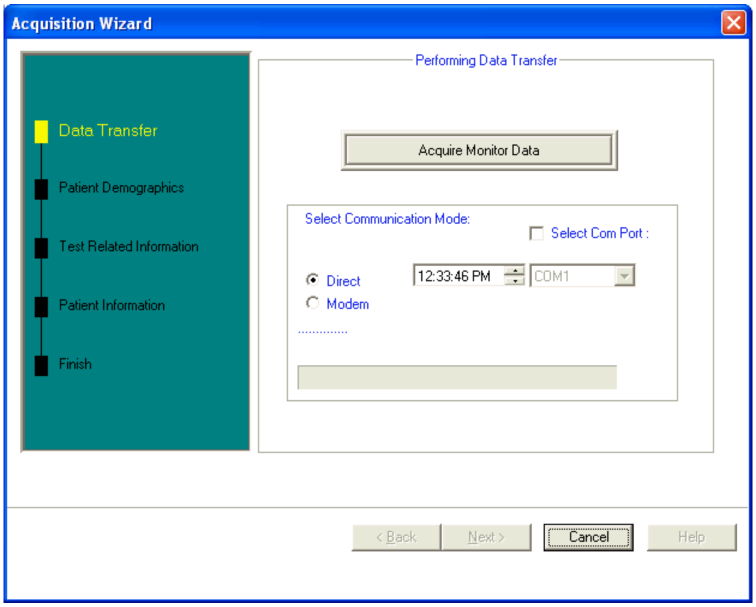


Figure 4-1: Acquisition Wizard — Data Transfer

Click **Acquire Monitor Data** to upload the patient data to the ABP Report Management System. The ABP Report Management System provides status messages area beneath the **Acquire Monitor Data** button.

If the ABP Report Management System does not detect the monitor, it may be necessary to select the serial communications port for the monitor. Select the **Select Com Port** check box to activate the list box. Select an item from the list box and then click **Acquire Monitor Data**.

Note:

- *If the monitor is not properly connected to the system, two error messages will appear. Click **OK** to close the messages, and properly connect the monitor to the system.*
- *To initialize the monitor over the modem, select **Modem** under **Select Communication Mode**.*

Once the data transfer is complete (indicated by a fully shaded progress bar), click **Next**. The **Enter Patient Demographic Information** dialog box appears.

Entering Patient Demographic Information

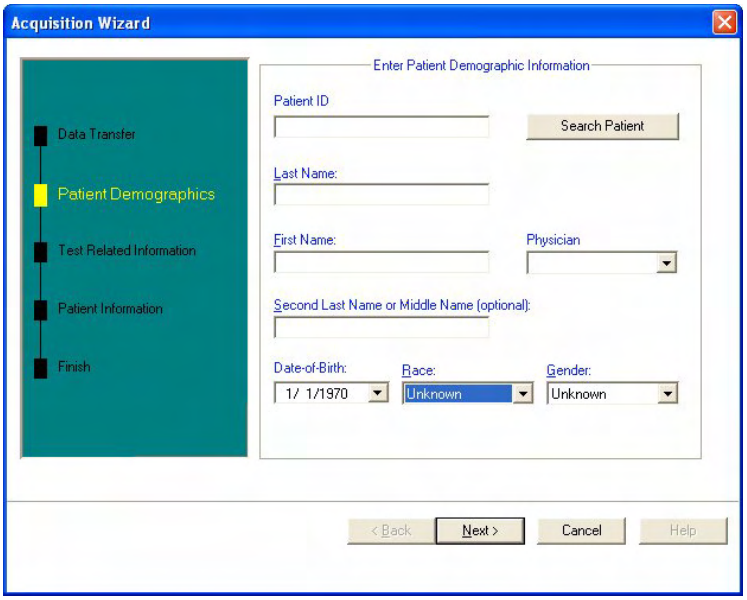


Figure 4-2: Acquisition Wizard — Patient Demographics

If you entered patient information during monitor initialization, this information will appear automatically in the **Enter Patient Demographic Information** dialog box.

If the edit boxes in this dialog box are empty but the patient has been tested before, the information for the patient may already exist in the ABP Report Management System. Refer to *Existing Patients* on page 4-3 to continue.

If the patient is new, you must manually enter text into the text boxes. Continue with the instructions in *New Patients* on page 4-4.

Existing Patients

If the patient has been tested before, the information for this dialog box already exists in the ABP Report Management System.

To search locate an existing patient:

1 Click **Search Patient** to search for a patient's name. The **Patients List** dialog box displays (*Figure 4-3*).

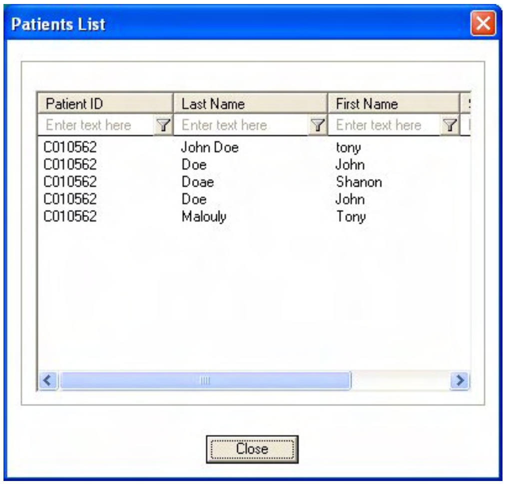


Figure 4-3: Patients List

2 Select the patient's name from the list and click **Close**.

The patient's demographic information displays in the **Acquisition Wizard** dialog box (*Figure 4-2*).

Note:

*To quickly locate a patient in the **Patients List** dialog box, type the appropriate data into any of the **Enter text here** boxes below each column title. For more information, refer to Quick Find Feature on page 2-6.*

3 Edit the information, if necessary, and then click **Next**. The **Optional Test Related Information** dialog box opens (refer to *Entering Test-Related Information* on page 4-4).

New Patients

Note:

*Although a total of 64 characters in each name box may be entered, the Client application displays only the first 52 characters of the combined name edit boxes in the **Report Manager** window. The name and patient ID can be truncated for printing purposes.*

To add a new patient:

1. Enter the **Patient ID** number assigned to the patient (20 characters maximum).
2. Press TAB and enter the patient's **Last Name** (64 characters maximum).
3. Press TAB and enter the patient's **First Name** (64 characters maximum).
4. Select a physician from the **Physician** list.
5. Enter the patient's middle name in the **Second Last Name** box if desired (64 characters maximum).
6. Enter the patient's date of birth, race, and gender, if desired.
7. Click **Next**. The **Optional Test Related Information** dialog box opens (*Figure 4-4*).

Entering Test-Related Information

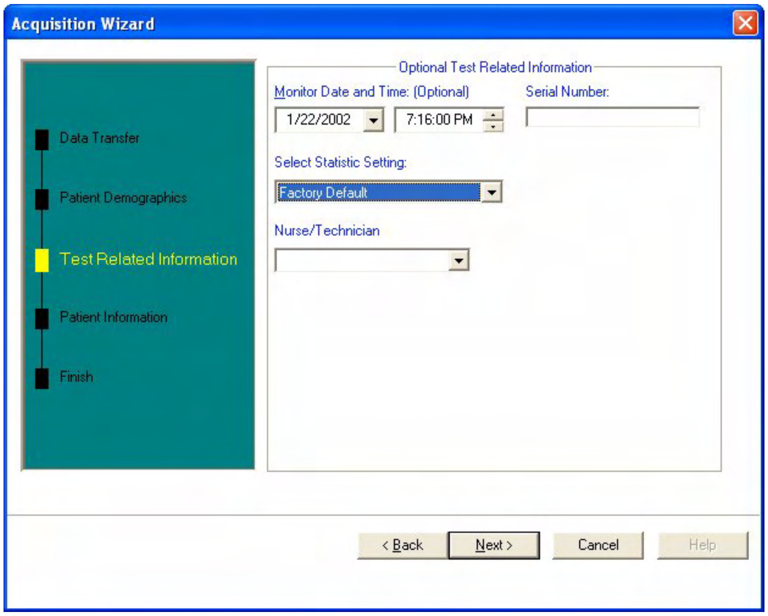


Figure 4-4: Acquisition Wizard — Optional Test Related Information

Note:

*The fields on this screen are optional. Click **Next** if you do not wish to include any of this information on the patient's report.*

To enter test related information:

1. Make any necessary changes to the **Monitor Date and Time** boxes. These boxes are automatically filled in with the date and time of the first good reading.
2. Select one of the options from the **Select Statistic Setting** list to apply preset analysis limits to the patient data. These limits determine which parts of the patient's data are considered normal and which parts are considered abnormal when the program analyzes the data. Refer to *Statistics Tab* on page 6-6 for additional information on the Statistical settings.
3. Select a name from the **Nurse/Technician** list.
4. Click **Next** to display the **Enter Patient Information** dialog box.

Entering Patient Information

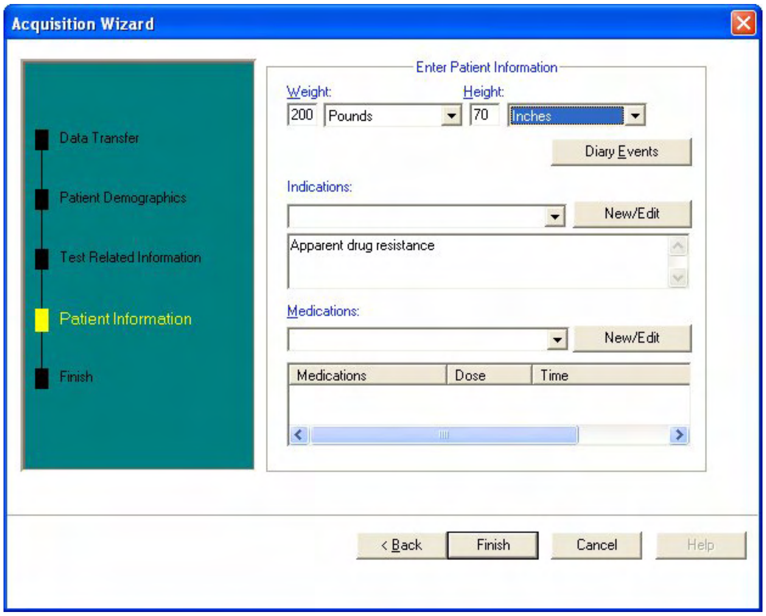


Figure 4-5: Acquisition Wizard — Enter Patient Information

Note:

- *The fields in this dialog box are optional. Click **Finish** if you do not wish to include any of this information in the patient's report.*
- *Some of the information in this dialog box may be filled in automatically if information was entered during monitor initialization or if the patient has been tested before.*

To enter optional patient information:

1. Enter the patient's **Weight** and select the appropriate units from the list.
2. Enter the patient's **Height** and select the appropriate units from the list.
3. Click **Diary/Events** to add comments to the patient event list or insert patient diary time and comments. For more information refer to *Diary Event Entry* on page 4-6.

4 Enter the patient's indications.

- Select a medication from the **Indications** list. To select more than one indication, repeat this step.

  -AND/OR-

- Type information directly into the text box.

Note:

*Click **New/Edit** to add, delete, or edit the available selections. Any changes you make in this window are saved automatically.*

5 Select any medications that the patient is taking from the **Medications** list. Each medication you select will appear in the window under the **Medications** list box.

Note:

*Click **New/Edit** to edit the medication information and display the **Medications** dialog box. For more information on working in the **Medications** dialog box, refer to* Medications *on page 4-7.*

6 Click **Finish**.

The Client application automatically analyzes the data as the last step in the acquisition process. In addition, the application automatically adds the test to the database, and opens the report for further review and editing.

Diary Event Entry

To add comments to the patient event list or to insert patient diary times and comments:

1 Click **Diary Events** in the **Enter Patient Information** dialog box (*Figure 4-5*). The **Diary/Patient Event List** dialog box opens.

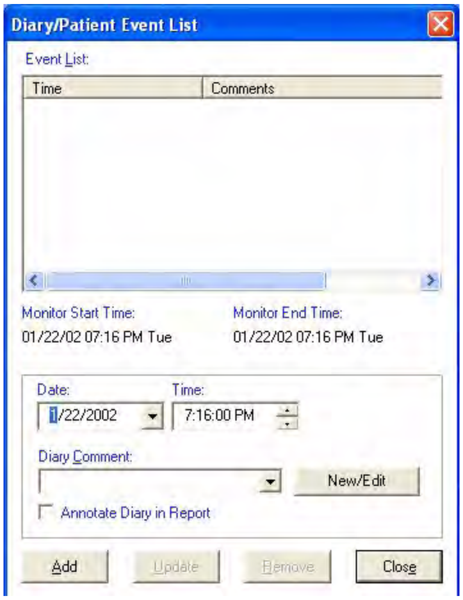


Figure 4-6: Diary/Patient Event List

2 Select the **Annotate Diary in Report** check box to if you want the diary entries annotated in the final report.

3 Enter the **Date** and **Time** to enter a diary event. Select a diary comment from the **Diary Comment** list box.

4 Click **Add** to add the entry to the **Event List**. Repeat these steps as necessary to enter all of the diary events.

- To update an entry, select the entry in the **Event List**. Make changes as necessary in the **Date** and **Time** and **Diary Comment** boxes. Click **Update**.
- To remove an entry, select the entry in the **Event List** and click **Remove**.

Note:

*Click **New/Edit** to add or delete the available selections. Any changes you make in this window are saved automatically.*

5 Click **Close**, when you have completed editing, to return to the **Enter Patient Information** dialog box (*Figure 4-5*).

Medications

To display the **Medications** dialog box (*Figure 4-7*) and edit patient medication information, click **New/Edit** next to **Medications** in the **Enter Patient Information** dialog box (*Figure 4-5*).

Note:

*Click **New/Edit** to add, delete, or edit the available selections. Any changes you make in this window are saved automatically.*

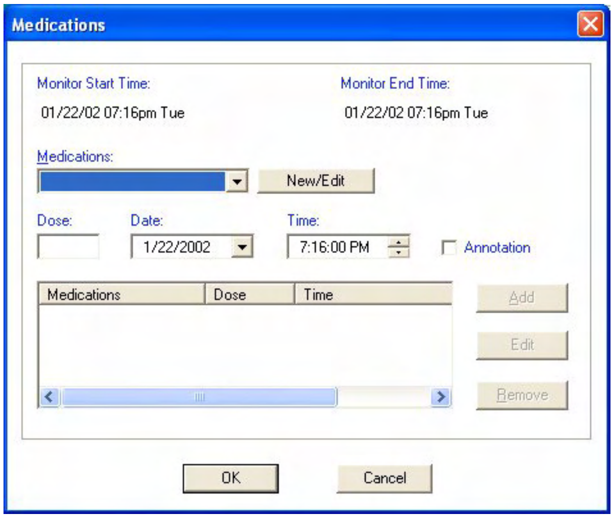


Figure 4-7: Medications dialog box

Adding a Medication

To add a medication to the patient's list:

1. Select the medication from the **Medications** list.
2. Enter the dose amount, date, and time.
3. Select the **Annotation** check box if medication annotation is to be included in the final report.
4. Click **Add**.
5. Repeat step 1 through step 4 to edit another medication.
6. Click **OK**.

Reviewing the Report

Contents

Overview

The ABP Report Management System provides a comprehensive and detailed report of a patient's ambulatory blood pressure.

Note:
A qualified physician should review the results of the ABP reading before treatment or non-treatment of any patient.

To review a report:

1. Start the Client application.
2. Click **Review/Edit Patient Test** from the **Main Menu** to open the **Report Manager** window.
3. Double-click the record you wish to review or edit (or highlight the record and click **Review**). The **Patient Information** page opens. Refer to *Figure 5-1* on page 5-2.

Note:
*To select multiple records to review, hold down the CTRL key, click each report, and click **Review**.*

4. Advance through the pages of the final report by either:
   - Pressing the PgUp and PgDn keys on the keyboard.

     -OR-
   - Clicking the **Prev** or **Next** icons (←/→) on the toolbar to move forward or back through the pages.

Note:
Some of the information that will appear in the report windows is determined by system settings (refer to Configuring System Settings on page 6-2). Some of the fields discussed in this chapter may not appear on your system.

Cover Page — Patient Information

The **Patient Information** page includes patient demographics, medications, indications, and monitor information. In addition, this page may contain a number of fields customized by the system administrator.

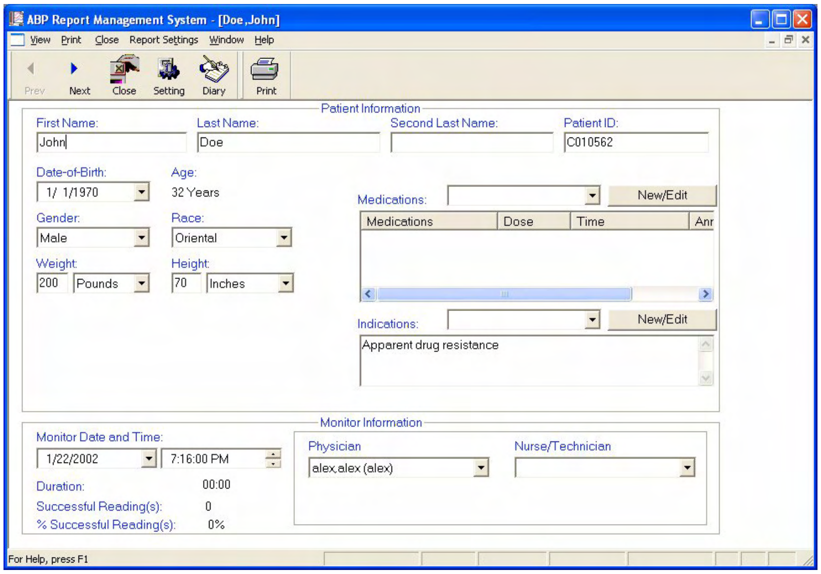


Figure 5-1: Patient Information page

Edit or enter the appropriate information as necessary.

To confirm the patient demographics:

1. Right-click an open area on the **Patient Information** page.
2. Select **Confirm Patient Demographics** from the menu.
3. Enter your **User ID** and **Password** and click **OK.** Once you confirm patient demographics, you will not be able to edit most demographic fields.

Note:

To unconfirm previously confirmed patient demographics, right-click any open area on the ***Patient Information*** *page, select* ***Unconfirm Patient Demographics****, and enter your* ***User ID*** *and* ***Password****. Click* ***OK****.*

4. Click **Next** to go to the next page in the report.

ABP Report Summary

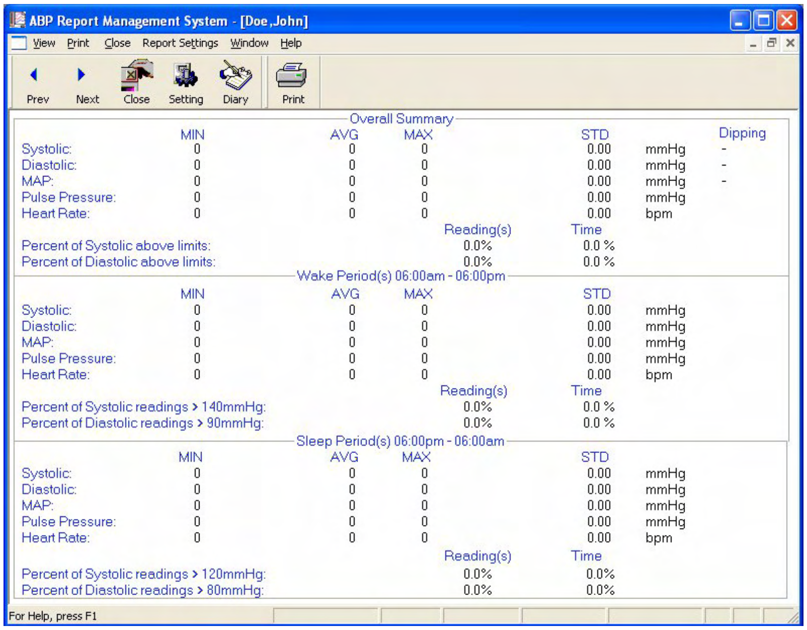


Figure 5-2: ABP Report Summary

The **ABP Report Summary** displays a summary for the entire scan and for each of the statistical periods. The information provided is for the patient's systolic, diastolic, MAP, pulse pressure, and heart rate. The low, high, and mean rates for the prescribed periods are also recorded.

This page also indicates the percentage of time that the readings in each of the periods were higher than the statistical boundaries.

Dipping is an indication of the change in blood pressure between day (or wake) and night (or sleep). It is the percentage change for the mean systolic and diastolic readings for the day and night. If there is no day or no night period, the dipping values cannot be calculated and, therefore, will not be available and will be indicated with a hyphen (-).

Click **Next** to continue to the next page.

Interpretation

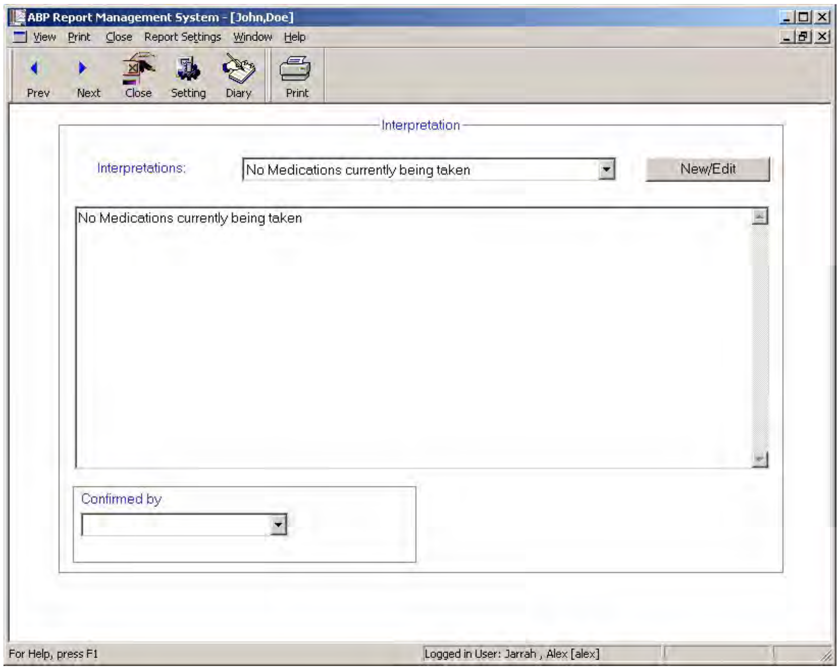


Figure 5-3: Interpretation page

The **Interpretation** text box provides a place for the reviewing physician to type in the interpretation. Blank lines are omitted to save space on the printouts. When the final report is printed, there is a place for the reviewing physician to sign and date the interpretation.

To enter the patient's interpretations:

- Select the desired interpretation from the **Interpretations** list and select the desired interpretation. Repeat this step to select more than one interpretation.

  -AND/OR-

  Type interpretation information directly into the **Interpretation** edit box.

Note:

*Click **New/Edit** to add, delete, or edit the available selections. Any changes you make in this window are saved automatically.*

To confirm the test:

1. Select your name from the **Confirmed by** drop-down list box.
2. Enter your **User ID** and **Password** and click **OK**. (Once you have confirmed the report no further editing is possible.)

Note:

*You can also unconfirm a test after it has been confirmed, click **Unconfirm Report** in the **Interpretation** window. Enter your User ID and Password and click **OK**.*

3. Click **Next** to continue to the next page in the report.

Raw Data Graph

Figure 5-4: Raw Data Graph

The **Raw Data Graph** displays raw data from ABP readings in a graphical format.

- The BP (top) graph displays the systole (the upper value), MAP (the middle value), and diastole (the lower value).
- The PP (middle) graph displays pulse pressure.
- The HR (bottom) graph displays heart rate.
- The statistical sleep period is the horizontal gray bar at the bottom of the BP graph.
- The statistical settings thresholds are the black horizontal line(s) in the BP graph.

Each type of measurement (BP, MAP, systole, etc.) is represented by a unique color in the graphic summary. Refer to *Table 1* to locate and identify information in the graph.

Table 1: Graph Color Identification

Measurement	Line Color
Systolic	Red
Diastolic	Blue
MAP	Purple
Pulse Pressure	Magenta
Heart Rate	Green

Clicking in the graph area results in a vertical line imposed on the closest reading.

Discrete Raw Data Graph

To display the **Discrete Raw Data Graph** (*Figure 5-5*), right-click the **Raw Data Graph** page and clear the **Point-to-Point** check box.

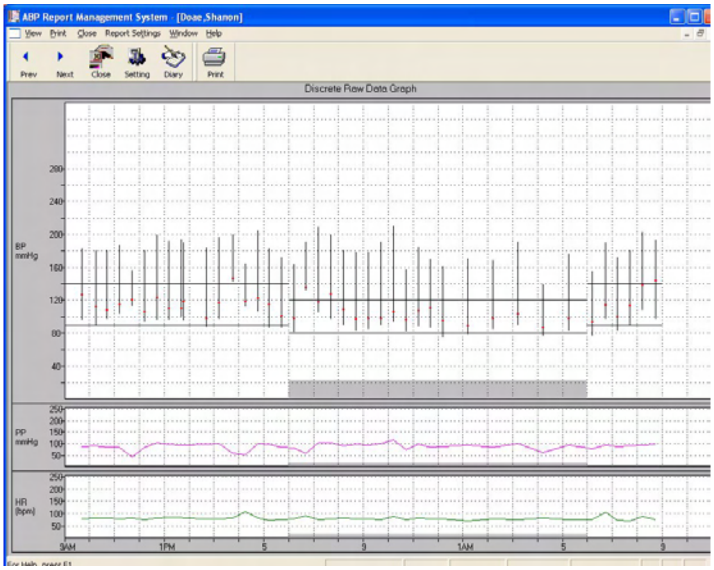


Figure 5-5: Discrete Raw Data Graph

The **Discrete Raw Data Graph** is similar to the **Raw Data Graph** (refer to *Raw Data Graph* on page 5-5).

Note:

*The **Discrete Raw Data Graph** does not use colors to represent the systolic, diastolic, and MAP measurements. For each reading, the upper end point represents the systolic measurement, the lower end point represents the diastolic measurement, and the red dot represents the MAP measurement.*

Inserting Calipers into Graphical Data

To insert a caliper:

1 Click the desired first reading and drag the mouse over to the desired last reading and then release the mouse button. The selected readings appear highlighted in black.

2 Right-click and select **Insert Caliper** from the menu. A dialog box opens displaying summary information for the selected readings.

3 Edit the summary information and enter comments, if desired.

Note:

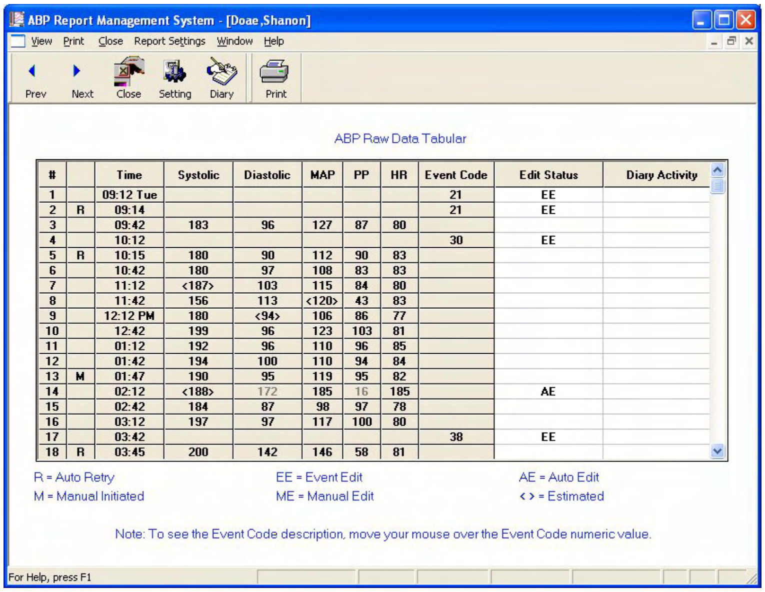
*If you edit the start time and end time values, click **Calculate** before proceeding.*

4 Click **Save** to return to the **Raw Data Graphic Summary** page.

5 Select **Caliper Summary** from the **View** menu to view the caliper summary.

6 Click **Next** to continue to the next page.

ABP Raw Data Tabular



#		Time	Systolic	Diastolic	MAP	PP	HR	Event Code	Edit Status	Diary Activity
1		09:12 Tue						21	EE	
2	R	09:14						21	EE	
3		09:42	183	96	127	87	80			
4		10:12						30	EE	
5	R	10:15	180	90	112	90	83			
6		10:42	180	97	108	83	83			
7		11:12	<187>	103	115	84	80			
8		11:42	156	113	<120>	43	83			
9		12:12 PM	180	<94>	106	86	77			
10		12:42	199	96	123	103	81			
11		01:12	192	96	110	96	85			
12		01:42	194	100	110	94	84			
13	M	01:47	190	95	119	95	82			
14		02:12	<188>	172	185	16	185		AE	
15		02:42	184	87	98	97	78			
16		03:12	197	97	117	100	80			
17		03:42						38	EE	
18	R	03:45	200	142	146	58	81			

Figure 5-6: Raw Data Tabular summary

The **ABP Raw Data Tabular** page displays raw data from ABP readings in a tabular format. Each reading is a row in the table. The reading numbers appear at the left side of the table. The various components of the reading appear at the top of the columns. Use the vertical scroll bars to scroll through the readings.

The ABP Report Management System records the edit status of each reading and displays this information in the **Edit Status** column.

- **EE** signifies an event edit, which comes from the ABP monitor.
- **AE** signifies an automatic edit, which has configurable limits set on the **Statistics** tab of the **System Settings** dialog box.
- **ME** signifies a manual edit, which the operator initiates. Angle brackets (**<** and **>**) signify an estimated reading (for example, **<114>**).

You can edit a cell in the **Edit Status** column if the cell does not already contain an **EE** or an **AE** status.

To edit the cell:

1. Click the desired cell in the **Edit Status** column. The **ME** edit status is displayed.
2. Click the cell again to reverse the edit status. The **ME** edit status is cleared.

You can also edit cells in the **Diary Activity** column.

To add or change a diary activity:

1. Click the desired cell and select a diary activity item from the list.

   -OR-

   Type the diary activity into the selected cell.
2. Click **Next** to continue to the next page.

Hourly Average Graph

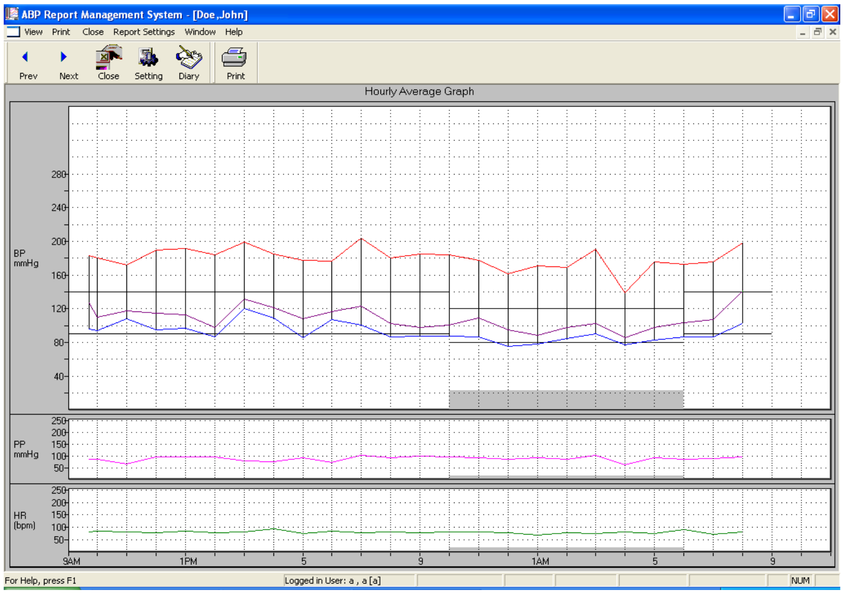


Figure 5-7: Hourly Average Graph

The **Hourly Average Graph** displays hourly average values of the ABP readings in a graphical format.

- The **BP** (top) graph displays the hourly averages of systole (the upper value), MAP (the middle value), and diastole (the lower value).
- The **PP** (middle) graph displays the hourly averages of pulse pressure.
- The **HR** (bottom) graph displays the hourly averages of heart rate.
- The statistical sleep period is the horizontal gray bar at the bottom of the **BP** graph.
- The statistical settings thresholds are the black horizontal line(s) in the **BP** graph.

Each type of measurement (BP, MAP, systole, etc.) is represented by a unique color graph. Refer to *Table 2* to locate and identify information in the graph.

Table 2: Graph Color Identification

Measurement	Line Color
Systolic	Red
Diastolic	Blue
MAP	Purple
Pulse Pressure	Magenta
Heart Rate	Green

Clicking in the graph area results in a vertical line imposed on the closest reading.

Discrete Hourly Average Graph

To display the **Discrete Hourly Average Graph**, right-click the **Hourly Average Graph** page and clear the **Point-to-Point** check box.

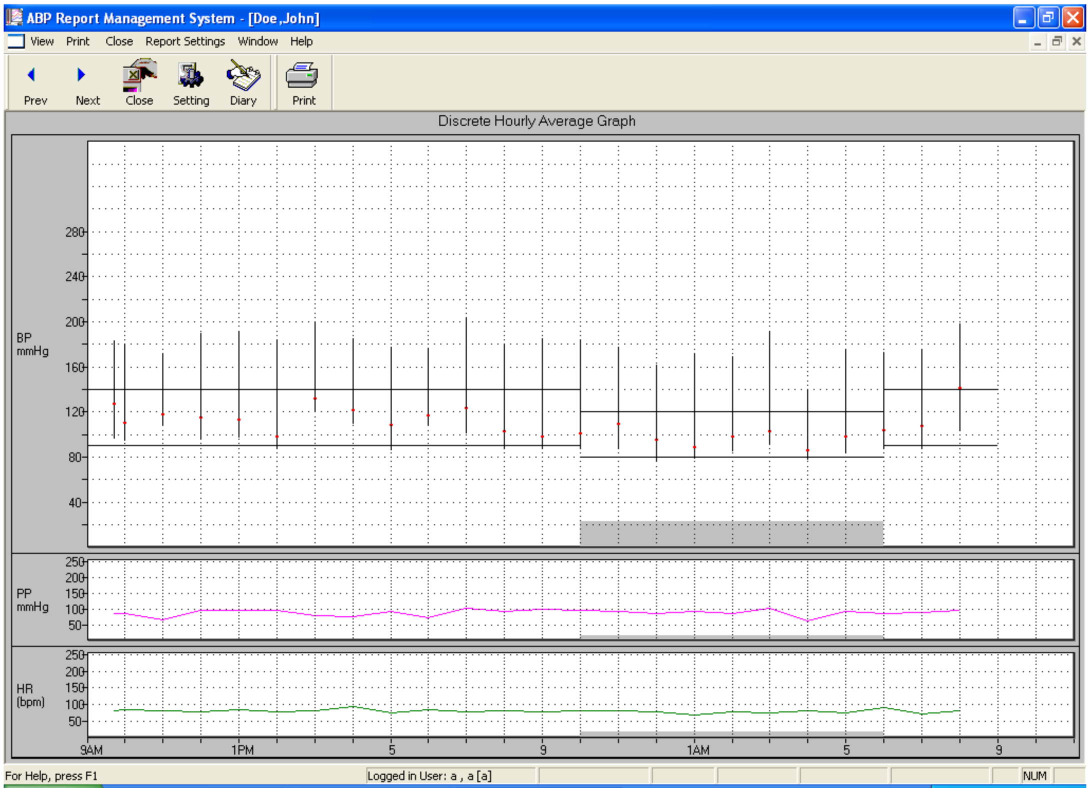


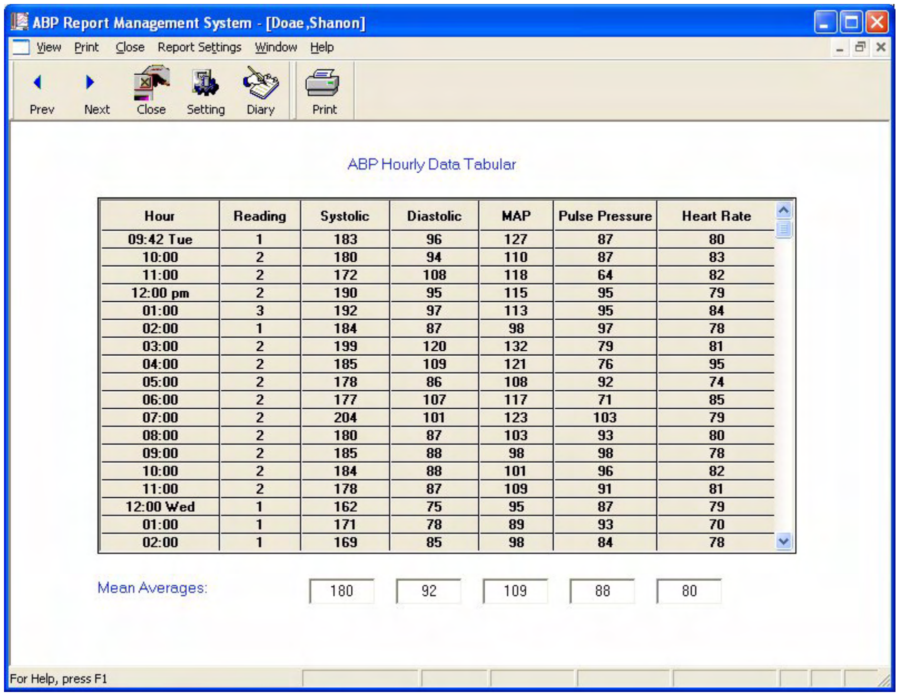
Figure 5-8: Discrete Hourly Average Graph

The **Discrete Hourly Average Graph** is similar to the **Hourly Average Graph** (refer to *Hourly Average Graph* on page 5-8).

Note:

*The **Discrete Hourly Average Graph** does not use colors to represent the systolic, diastolic, and MAP measurements. For each reading, the upper end point represents the hourly average systolic value, the lower end point represents the hourly average diastolic value, and the red dot represents the hourly average MAP value.*

ABP Hourly Data Tabular



Hour	Reading	Systolic	Diastolic	MAP	Pulse Pressure	Heart Rate
09:42 Tue	1	183	96	127	87	80
10:00	2	180	94	110	87	83
11:00	2	172	108	118	64	82
12:00 pm	2	190	95	115	95	79
01:00	3	192	97	113	95	84
02:00	1	184	87	98	97	78
03:00	2	199	120	132	79	81
04:00	2	185	109	121	76	95
05:00	2	178	86	108	92	74
06:00	2	177	107	117	71	85
07:00	2	204	101	123	103	79
08:00	2	180	87	103	93	80
09:00	2	185	88	98	98	78
10:00	2	184	88	101	96	82
11:00	2	178	87	109	91	81
12:00 Wed	1	162	75	95	87	79
01:00	1	171	78	89	93	70
02:00	1	169	85	98	84	78

Figure 5-9: Hourly Data Tabular summary

The **ABP Hourly Data Tabular** page provides an hourly summary of the results.

- Use the vertical scroll bar to move through the rows.
- This page may be viewed only; you cannot edit any values.
- **Mean Averages** are the averages of the hourly averages.

The time format in the **ABP Hourly Data Tabular** window is a user-configurable setting. For more information on the time formats available, or to change the time format, refer to *Tabular Time Format* on page 6-4.

Click **Next** to continue to the next page.

Caliper Summary View

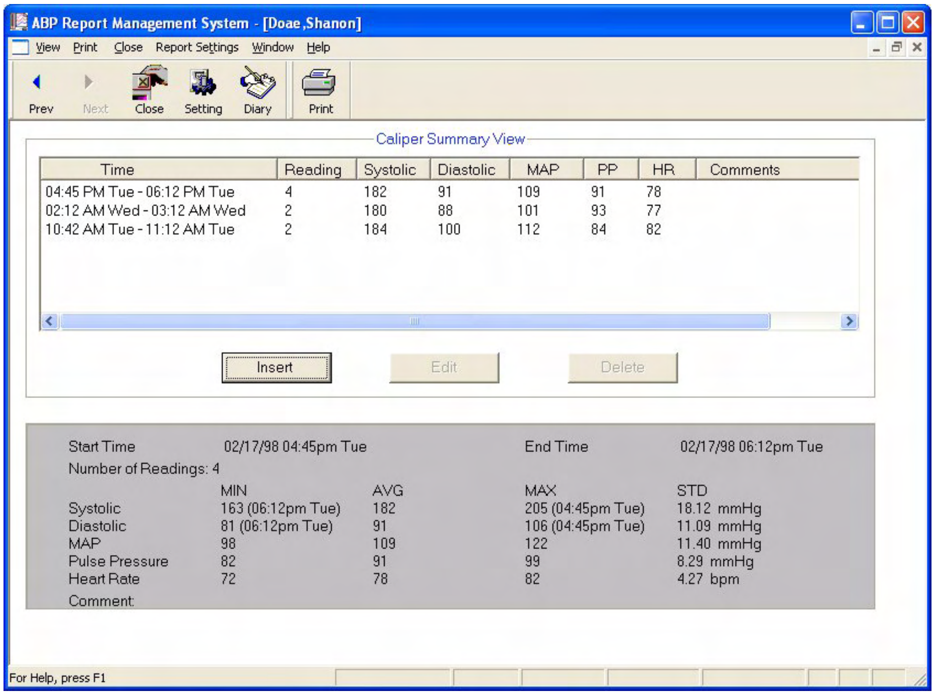


Figure 5-10: Caliper Summary View

The **Caliper Summary View** page displays the calipers in the order in which they were saved. Each caliper summary displays the time period; the number of readings for that period; the minimum, maximum, mean, and standard deviation for systolic, diastolic, MAP, pulse pressure, and heart rate values; and any comments. This page also displays the time of each occurrence of minimum and maximum systolic and diastolic values.

You may insert, edit, and delete calipers on this page.

Inserting Calipers

Note:

To insert calipers into graphical data, refer to Inserting Calipers into Graphical Data on page 5-6.

To insert calipers:

1 Click **Insert**. A dialog box opens.

2 Enter the start time and end time, as well as any comments.

3 Click **Calculate**.

4 Click **Save**.

Editing Calipers

To edit calipers:

1. Click the appropriate caliper summary from the list.
2. Click **Edit**. A dialog box opens displaying summary information for the selected readings.
3. Edit the summary information and enter comments, if desired.

Note:
*If you edit the start time and end time values, click **Calculate** before proceeding.*

4. Click **Save**.

Deleting Calipers

To delete calipers:

1. Click the appropriate caliper summary from the list.
2. Click **Delete**.

Edit Summary

The **Edit Summary** page is a summary of all raw data readings that are out of range of the Auto Edit limits and is available only as a part of the hard copy printout. For information on setting Auto Edit limits, refer to *Statistics Tab* on page 6-6.

The **Edit Summary** is very similar to the **Raw Data Summary**. The **Edit Summary** lists the information as a table. The **Raw Data Summary** contains all of the readings that fall within the range of the Auto Edit limits, while the **Edit Summary** contains all of the readings that are out of range of the limits.

System Setup

Contents

Overview

Before using your Client application, you may wish to spend a few minutes configuring the application to suit your individual needs.

There are two types of information that you may wish to personalize:

- Windows settings
- System settings

Configuring Windows Settings

Your workstation should arrive with the Windows settings preconfigured as appropriate for your region.

Use the Windows Control Panel to set the formats for:

- Time
- Date
- Height units
- Weight units

Refer to the *92506 Ambulatory Blood Pressure Management System* data sheet, (P/N 061-1283-00) for supported languages.

For more information, refer to the instructions provided with your workstation.

Configuring System Settings

System Settings enables you to set various parameters of the system setup and report configurations. (Refer to *User Permissions* on page 1-6 for information regarding user access.)

To access System Settings:

1 Start the Client application.

2 Click **View/Change System Settings** on the **Main Menu**.

The **System Settings** dialog box opens (*Figure 6-1*).

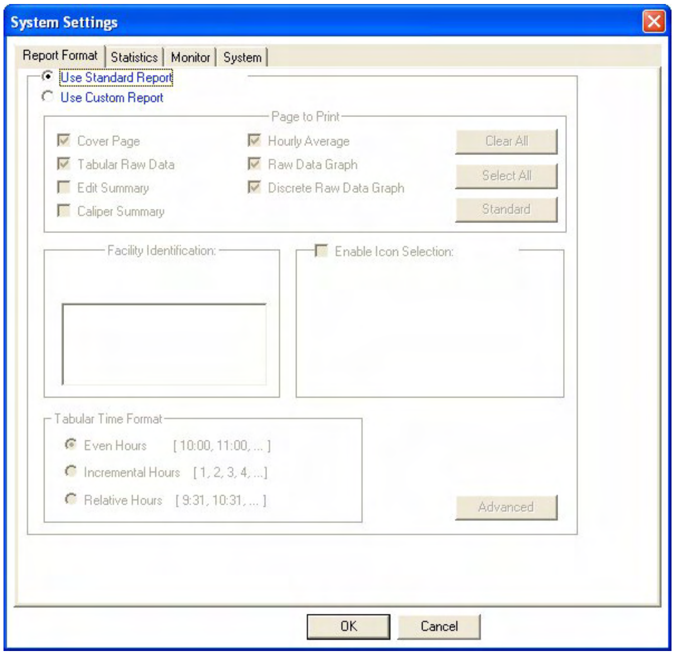


Figure 6-1: System Settings dialog box

There are four tabs in the System Settings dialog box:

- Report Format
- Statistics
- Monitor
- System

Note:

*The **Report Format** tab is available only to certain users (refer to User Permissions on page 1-6). Only three tabs will display for all other users.*

Report Format Tab

The **Report Format** tab contains user-configurable settings for printed reports.

The settings you configure on this tab are used as the default settings for each patient report that you print. Patient report settings can be configured individually. For more information, refer to *Printing Specific Pages* on page 7-1.

When the **Report Format** tab first displays, the **Use Standard Report** check box is selected.

- If you prefer to use the standard settings as the default setting for all reports, no changes are necessary. Click the **Statistics** tab or click **OK** to close the **System Settings** dialog box.
- To view and edit the options on the **Report Format** tab, select the **Use Custom Report** check box.

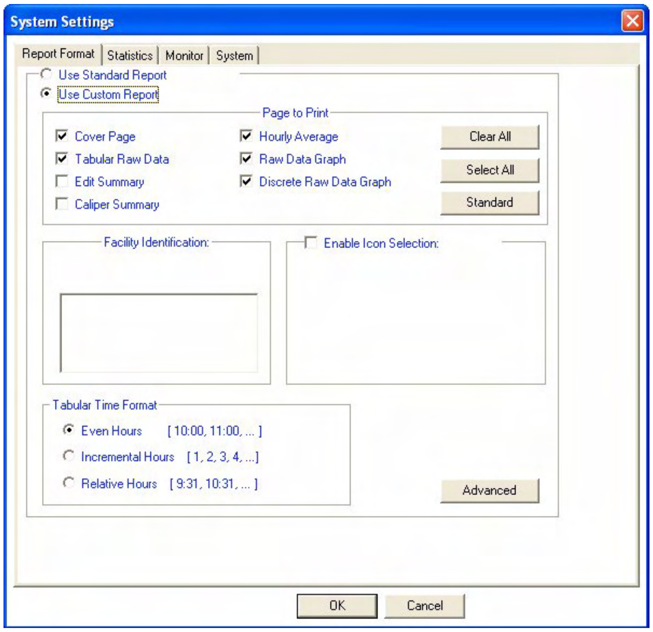


Figure 6-2: Report Format tab — Use Custom Report selected

To create custom report format settings:

1. Select the pages you want to include in reports. Use **Clear All**, **Select All**, and **Standard** to the right of the check boxes to assist you:
   - Click **Clear All** to clear all check boxes.
   - Click **Select All** to select all check boxes.
   - Click **Standard** to display the standard (factory-configured) report settings.

Note:

Refer to Reviewing the Report on page 5-1 for a description of the pages that can be included in the reports.

2 Click the text box under **Facility Identification** to include your hospital, clinic, or office name; address; and other identifying information. Type in the information you wish to appear at the top of each report. A maximum of five lines are possible.

- The first line of the text will appear on the cover page and on each additional page of the report.
- Additional lines of text will appear on the cover page only.

3 Select a **Tabular Time Format**. For more information, refer to *Tabular Time Format* on page 6-4.

4 Select the **Enable Icon Selection** check box, as shown in *Figure 6-3*, to include a logo on each report. A **Browse** button and list box appears below the check box.

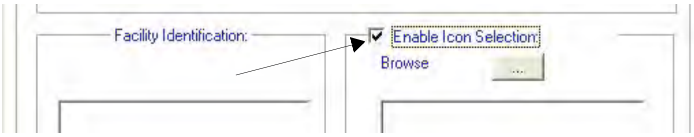


Figure 6-3: Icon selection options enabled

- Click **Browse** to navigate to the logo, and select the file. Supported format types include bitmaps (*.bmp*) and icons (*.ico*).
- Once you have selected the icon, it will appear in the text box.

5 Click **Advanced** to access custom labels and make a selection, if your system administrator has configured custom labels. For more information, refer to *User Advanced Dialog Box* on page 6-5.

6 Click **OK** to close the dialog box when you are finished customizing the report format settings, or select the **Statistics** tab to continue (refer to *Statistics Tab* on page 6-6).

Tabular Time Format

There are three time formats that you can select for **Tabular Time Format**. The time format you select affects how the data is displayed in the **ABP Hourly Data Tabular** summary (for more information, refer to *ABP Hourly Data Tabular* on page 5-10).

- **Even Hours** — Reading values are calculated at an even-hour boundary (the minute is zero). If the scan does not start on an even hour, calculations will include only those readings that occurred in the partial hour. The last hour may be a partial hour.
- **Incremental Hours** — Reading values are calculated starting with the first good reading and all other good readings for the next 59 minutes and 59 seconds. For example, if the first reading is at 9:42, all readings from 9:42:00 to 10:41:59 are grouped in Hour 1. This process continues for each hour, for the entire procedure.
- **Relative Hours** — Reading values are calculated starting with the hour of the first good reading (the minute time is :31). For example, if the first good reading is 9:42, the start time of the first hourly tabular reading will be 9:31, and the end time (not shown) is 10:30. The second hourly time will be 10:31, and the end time is 11:30. This continues for each hour, for the entire procedure.

User Advanced Dialog Box

Click **Advanced** on the **Report Format** tab. The **User Advanced** dialog box opens (*Figure 6-4*).

Figure 6-4: User Advanced dialog box

The **User Advanced** dialog box contains check boxes for enabling custom labels to include on reports. Custom labels are user-configurable and may include information such as secondary patient ID number (refer to *Custom Label Settings* on page 6-10). Select one or more check boxes to enable the option of entering custom labels in the report, or clear the check boxes to disable the option.

Statistics Tab

The **Statistics** tab in the **System Settings** dialog box contains user-configurable settings for data analysis limits.

When the **Statistics** tab is first opened, the **Factory Default** setting is selected.

If you prefer to use the factory default settings as given for data analysis, no changes are needed. Click the **Monitor** tab, or click **OK** to close the **System Settings** dialog box.

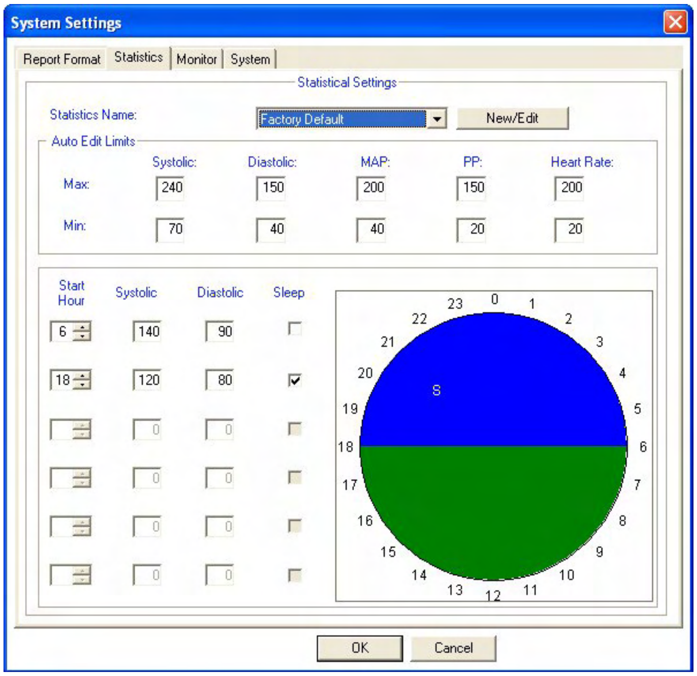


Figure 6-5: Statistics tab

To edit the settings on the Statistics tab:

1. Click the arrow next to **Statistics Name** text box and select an option from the list if there are existing statistical setting configurations. The settings for your selection will display on the **Statistics** tab.

   -OR-

   Click **New/Edit** if this is the first time you have configured statistical settings. The **Statistical Settings** dialog box opens. Type a name for your configuration into the **Item** text box and click **Add**. Click **Close**.

2. Define the edit limits for data analysis. These limits are used when the ABP Report Management System analyzes the data. Out-of-boundary readings are unavailable on the **Raw Data Tabular Summary**, and are not displayed on the **Raw Data Graphic Summary**, the **Discrete Raw Data Graph**, the **Hourly Average Graphic Summary**, the discrete **Hourly Average Graphic Summary**, or the **Hourly Data Tabular** summary.

Table 1: Edit Limits

Systolic Max	Highest acceptable value for a systolic reading. The value entered cannot exceed 250 and must be greater than the **Diastolic Max** value.
Systolic Min	Lowest acceptable value for a systolic reading. The value entered must be ≥2, and must be greater than the **Diastolic Min** value.
Diastolic Max	Highest acceptable value for a diastolic reading. The value entered cannot exceed 200 and must be less than **Systolic Max** value.
Diastolic Min	Lowest acceptable value for a diastolic reading. The value entered must be ≥1, and must be less than the **Systolic Min** value.
MAP Max	Highest acceptable value for a mean arterial pressure (MAP) reading. The value entered cannot exceed 250.
MAP Min	Lowest acceptable value for a MAP reading. The value entered must be ≥1.
PP Max	Highest acceptable value for a pulse pressure (PP) reading. The value entered cannot exceed 250.
PP Min	Lowest acceptable value for a PP reading. The value entered must be ≥1.
Heart Rate Max	Highest acceptable value for a heart rate reading. The value entered cannot exceed 200.
Heart Rate Min	Lowest acceptable value for a heart rate reading. The value entered must be ≥1.

3 Define the statistical period boundaries.

- Enter the start time and end time for each period, as well as the expected average systolic and diastolic blood pressure. Select **Sleep** if the period is during sleep.
- The pie chart in the dialog box reflects the period settings. If the period is a sleep period, an “S” will appear in the corresponding section of the pie chart.

4 Click **OK** to close the dialog box when you finish customizing the statistics settings, or select the **Monitor** tab to continue.

Monitor Tab

The **Monitor** tab contains user-configurable settings for initializing the ABP monitor.

When the **Monitor** tab first opens, the **Standard** setting is selected. If you prefer to use the standard settings as given for data analysis, no changes are needed. Click the **System** tab or click **OK** to close the **System Settings** dialog box.

To create a new configuration or edit an existing configuration, follow the instructions below.

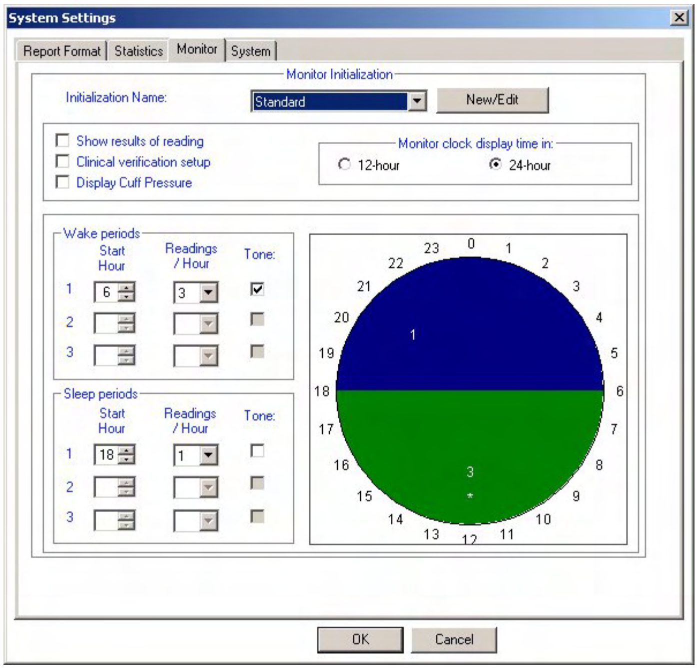


Figure 6-6: Monitor Initialization Options

Creating a New Configuration

To create a new monitor initialization configuration or to select an existing configuration:

1. Click **New/Edit** if this is the first time you have configured the **Monitor Initialization** settings. The **Monitor Initialization List** dialog box opens.
2. Type a name for your configuration into the **Item** text box.
3. Click **Add**.
4. Click **Close**.

To select from existing monitor initialization configurations, select an option from the **Initialization Name** list. The settings for your selection display on the **Monitor** tab.

Editing the Existing Configuration

To make changes to the settings, select the appropriate check box:

- If you select the **Show results of reading** check box, the reading results will appear on the ABP monitor display after each blood pressure reading.
- If you select the **Clinical verification setup** check box, the monitor will detect blood pressure levels as low as 40 mmHg (the monitor will always bleed to 40 mmHg).
- If you select the **Display Cuff Pressure** check box, the cuff pressure will appear on the ABP monitor display while the cuff is pumping and bleeding.
- The **Monitor clock display time** selection determines how the time appears on the ABP monitor, either in 12-hour or 24-hour (military) format.

Wake and Sleep Configuration

The physician may require that the blood pressure readings occur more often during certain times of the day, and less often during other times. Configure the **Wake periods** and **Sleep periods** as necessary to meet the physician's requirements.

- Make any necessary changes to the **Start Hour** and **Readings/Hour** options.
- If you select the **Tone** check box, an audible tone will precede each blood pressure reading. (In most situations, ensure that **Tone** is not selected for sleep periods.)
- Once a period is defined, the pie chart on the right side of the dialog box automatically updates to reflect changes.
- The pie chart will reflect the sleep and wake period settings with numbers (representing the readings per hour), asterisks (* ; representing that the tone is enabled), and colors (each period is color coded to correspond with the pie chart).

When you finish customizing the monitor settings, either click **OK** to close the dialog box, or select the **System** tab to continue.

System Tab

The **System** tab contains language, password, and time display settings.

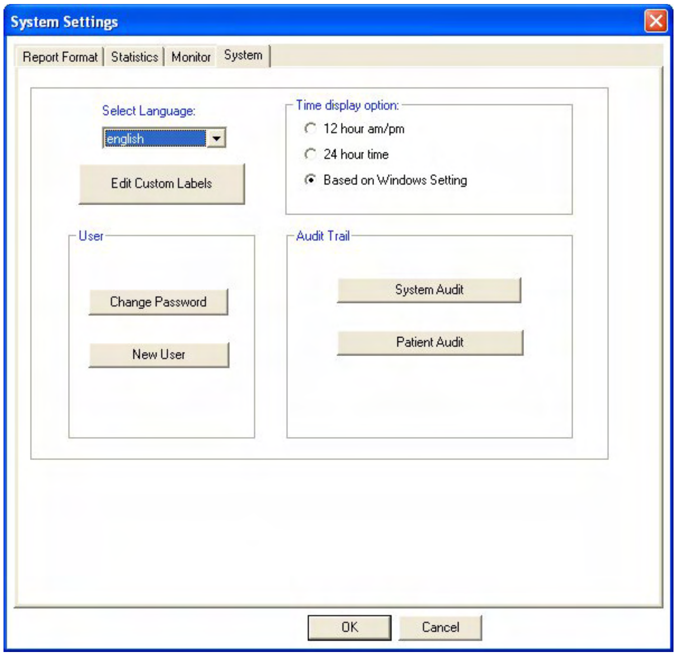


Figure 6-7: System tab

Language Settings

To select the system language:

- Choose the language from the list of options under **Select Language**.

Custom Label Settings

Custom labels (identification fields) can be added by the system administrator to include specific information on the cover page of each report, in addition to standard report information (for example, a secondary patient identification number or an important message that a physician wants to appear in each report).

In the electronic report, the custom label consists of a label name and a text entry box. On the printed report, the custom label information appears on each page, below the facility information.

To create a custom label:

1 Click **Edit Custom Labels** to display the **Group Advanced** dialog box (*Figure 6-8*).

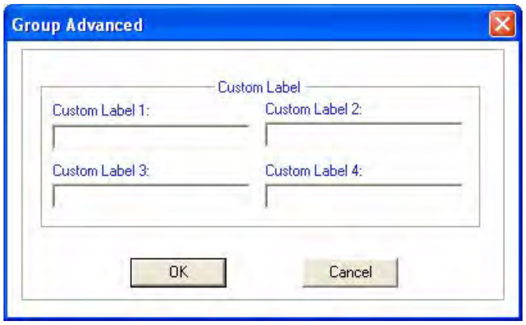


Figure 6-8: Group Advanced dialog box

2 Type the appropriate text into one of the **Custom Label** text boxes.

Note:

In order for the custom label to appear in the report, the box must be enabled. For more information, refer to User Advanced Dialog Box on page 6-5.

3 Click **OK**.

The next time the report is acquired in a ABP Report Management System, the cover page of the electronic report will contain a text entry box for that custom identification field.

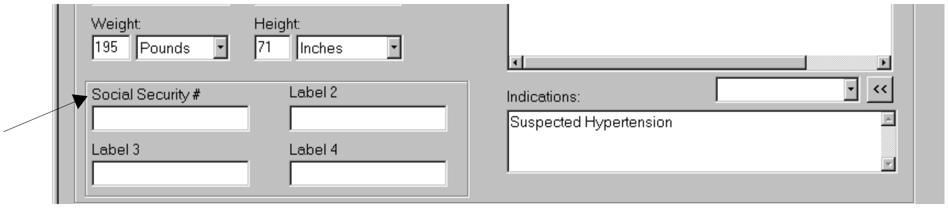


Figure 6-9: Example of custom label

Editing a Custom Label

If you change a custom label, all future generated reports will contain the new custom label.

Existing reports containing the old custom label will not change.

Existing reports that do not have values entered for the old custom label, or are not confirmed, will show the new custom label.

Changing a Password

If it is necessary to change your password, click **Change Password** on the **System** tab of the **System Settings** dialog box to open the **User Password** dialog box (*Figure 6-10*).

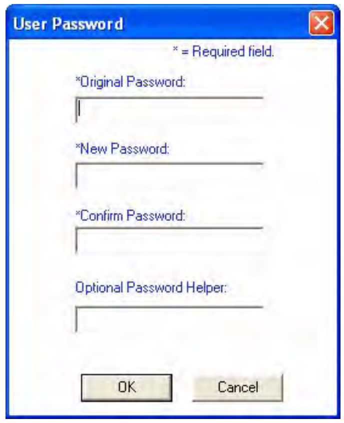


Figure 6-10: User Password dialog box

To change your password:

1. Type in your current password and press TAB.
2. Type in a new password and press TAB.
3. Type in the new password again.
4. Type in a password reminder in the **Optional Password Helper** text box, if desired.
5. Click **OK**.

Adding, Editing, and Deleting User Profiles

Click **New User** on the **System** tab to access the **User List** dialog box.

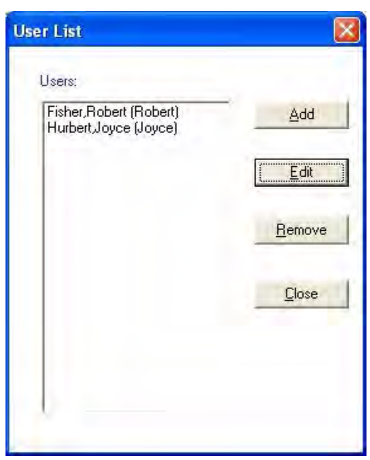


Figure 6-11: User List dialog box

From the **User List** dialog box you can add, edit, and delete users.

Adding User Profiles

To provide an individual with access to the Client application, you must define the person as a certain type of user. When you define a user, you must provide a logon name and password for them, as well as classify their role. (Refer to *User Permissions* on page 1-6 for information regarding user access.)

Note:
Only certain users have privileges to add a new user (refer to Table 1 on page 1-6 for more information).

To add a new user:

1 Click **Add** to open the **New User** dialog box (*Figure 6-12*).

Note:
Required fields are indicated with an asterisk (*). All other fields are optional. You can skip optional fields by pressing TAB.

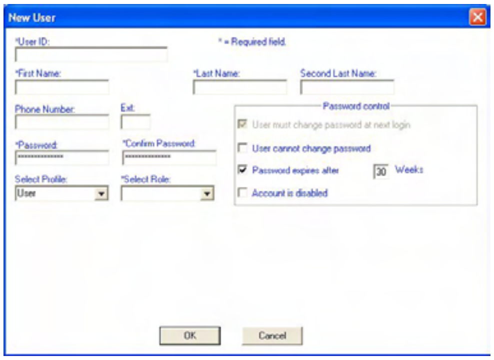


Figure 6-12: New User dialog box

2 Type in a **User ID** and press TAB.

3 Type in the first name, last name and second last name, pressing the TAB key after each.

Note:
*You can use the **Second Last Name** field, which is optional, to enter a middle name.*

4 Type in the phone number, as well as an extension, if desired.

5 Create a new password and type it in the **Password** text box and the **Confirm Password** text box.

Note:
All new users are required to change their passwords the first time they log on.

6 Select **Password control** options by selecting each desired check box.

7 Select a profile from the **Select Profile** list. Select **User,** unless the individual should have administrative permissions (for example, access to all functions in the Client application).

8 Select a role from the **Select Role** list.

Note:
To see the privileges available for various roles, refer to Table 1 *on page 1-6.*

9 Click **OK**.

Editing User Profiles

To change the information for a user profile (for example, to reset a password or change a phone number):

Note:

Only users with administrative profiles may edit the user profiles.

1. Select the user profile you wish to edit in the **User List** dialog box.
2. Click **Edit**. The **Edit User** dialog box opens.
3. Edit the information in the **Edit User** dialog box as necessary.

Note:

*The **Edit User** dialog box is similar to the **New User** dialog box. For information on editing and configuring the **Edit User** dialog box, refer to Adding User Profiles on page 6-13.*

4. Click **OK** when you finish editing.

Deleting User Profiles

Note:

Only users with administrative profiles may delete the User Profiles.

When a person leaves a position, and in other similar situations, it is appropriate to delete a user profile from the Client application.

Note:

*You can deny access to a user, without removing the user from the user list by selecting the **Account is Disabled** check box in the **Edit Users** dialog box. The user's access will be denied as long as this check box is selected.*

To delete a user profile:

1. Select the user profile you wish to edit in the **User List** dialog box.
2. Click **Remove**. A confirmation box appears.

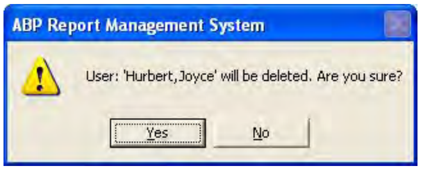


Figure 6-13: Confirmation dialog box

3. Click **Yes** to delete the user profile.

   -OR-

   Click **No** to cancel the action.

Time Display Options

This setting affects all references to time in reports, the **Report Manager** dialog box, and printed hard copy reports. Options may be changed by selecting one of the options available in the **Time display option** area.

Auditing Information

Every activity in the Client application is logged. You may wish to generate a report that shows specific activities. In addition, you may also delete logs from the system.

Use the audit feature to view reports on a variety of activities. The audit feature is divided between patient record activities (updates to patient demographics, etc.), and system activities, which include all other activities in the Client application (instances a user profile was deleted, etc.).

When auditing activity in patient records, you may select the patient type (**Patient Demographics**, **Test**, and **All**), and the action that you want to audit (**Read**, **Insert**, **Update**, **Delete**, and **All**). Examples of patient records activity audits are an audit of every instance a test was read or an audit of every activity related to the patient demographics for tests.

When auditing system activities, you may select an option (**User**, **Role**, **Permissions**, **ABP Test**, **Others**, or **All**), and what activity you wish to audit (**Read**, **Insert**, **Update**, **Delete**, or **All**). Examples of system activity audits are an audit of every update to a user or an audit of every instance a permission was inserted.

System Audit

To view a System Audit:

1 Click **System Audit**. The **System Audit** dialog box opens.

Figure 6-14: The System Audit dialog box

2 Select a system classification: **Group**, **User**, **Role**, **Permissions**, **ABP Test**, **Others**, or **All**.

3 Select the action that you wish to audit: **Read**, **Insert**, **Update**, **Delete**, and **All**.

4 Do one of the following:

- Click **View** to view the data on the screen. You also will have the option to print the data from the **Audit Trail** dialog box.

  -OR-

  Click **Print** to print the data. You may view the data after printing by clicking **View**.

The Client application generates a report. Refer to *Audit Report* on page 6-17 for further information on the report.

Patient Audit

To view an audit of patient record activity:

1 Click **Patient Audit** The **Patient Audit** dialog box opens.

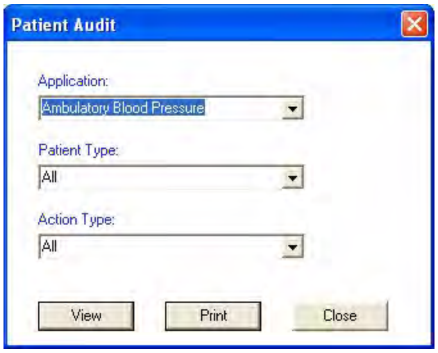


Figure 6-15: Patient Audit dialog box

2 Select an application from the **Application** list.

3 Select a patient type from the **Patient Type** list.

- The **Patient Demographics** category limits the audit trail to items related to patient demographics. One example is a change to a patient’s name.
- The **Test** category limits the audit trail to items related to the actual tests or reports. Adding a test, changing a statistical setting, and inserting a diary entry are examples.
- The **All** category covers both **Patient Demographics** activity and **Test** activity.

4 Select the action that you wish to audit from the **Action Type** list: **Read**, **Insert**, **Update**, **Delete**, and **All**.

5 Do one of the following:

- from the **Audit Trail** dialog box.

  -OR-

  Click **Print** to print the data. You may view the data after printing by clicking **View**.

The Client application will generate a report. Refer to *Audit Report* on page 6-17 for further information on the report.

Audit Report

Note:

- *The information on the printed report is identical to the information displayed in the **Audit Trail** dialog box.*
- *The **System Audit Trail** window is shown in Figure 6-16. The **Patient Audit Trail** window and report are similar to the **System Audit Trail** window and report.* *Refer to Table 2 on page 6-17 for descriptions of each column heading.*

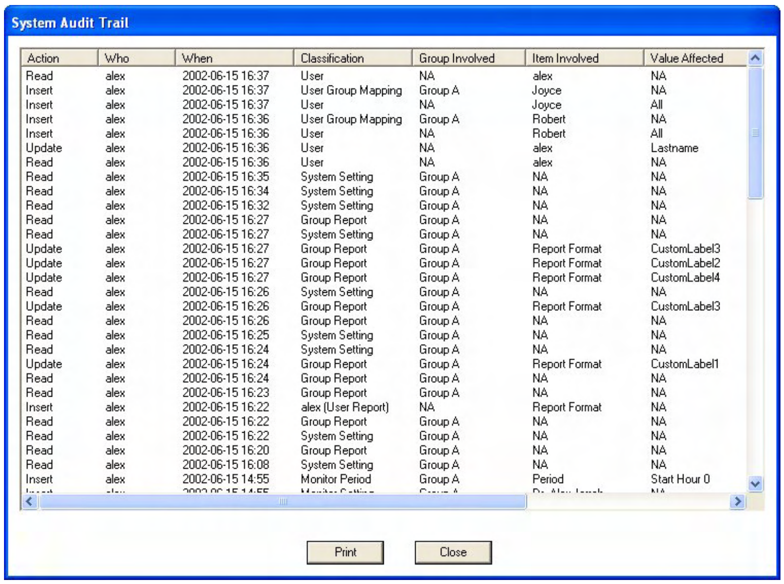


Figure 6-16: System Audit Trail window

Table 2: User Permission

Column Heading	Description
Action	Describes the action that was taken.
Patient	Describes which patient record was affected (Patient Audit only).
Test	Indicates the date of the patient test (Patient Audit only).
Who	Indicates the user who made the change.
When	Indicates when the user made the change.
Classification	Indicates what was changed.
Group Involved	Indicates which group was involved or affected (System Audit only).
Item Involved	Indicates specifically what was changed.
Value Affected	Indicates what value was changed.
New Value	Indicates the new value.
Previous Value	Indicates the old value.
Application Involved	Indicates which ABP Report Management System was involved.

1. Use the scroll bar on the right of the **Audit Trail** dialog box to view all of the contents in the list (the scroll bar will only appear if the list does not fit in the dialog box).
2. Use the scroll bar at the bottom of the **Audit Trail** dialog box to view all of the columns in the dialog box.
3. Double-click (or click and drag) the bars between the column titles to expand the columns, as necessary.
4. Click **Print** to print the report.
5. Click **Close**.

Printing and Sending Files

Contents

Printing the Report

Click **Review/Edit Patient Test** from the **Main Menu** to access the directory of patient tests. The **Report Manager** window opens.

In the Print menu, there are two options for printing patient data:

- Print Report
- Print Specific Pages

To print patient data:

1. Select the desired record in the **Report Manager** window.
2. Select the desired print option from the **Print** menu.

Printing Reports

Select **Print Report** from the **Print** menu to print the entire report as defined in the **System Settings** dialog box (refer to *Report Format Tab* on page 6-3).

Printing Specific Pages

Select **Print Specific Pages** from the **Print** menu to print only those final report pages that you select. A dialog box similar to the **System Settings** dialog box (refer to *Report Format Tab* on page 6-3 for a description of this dialog box) opens enabling you to make selections that affect only the current printout.

Printing Pictures of the Display

Note:

*You must install the **Print Now** software to perform the following functions.*

With the ABP Report Management System, you can obtain pictures of the image shown on the display. This option is useful if, for example, you are experiencing difficulties with your system. Having a picture of the display is useful when consulting with Spacelabs Medical Technical Support personnel.

There are several options available with the Print Screen feature:

- Obtain a picture of the entire screen display.
- Obtain a picture of the active window only.
- Obtain a printout from the printer.
- Obtain a picture that can be pasted into a document (such as WordPad) or a graphic program document.

Obtaining a Picture of the Entire Screen Display

To obtain a picture of the entire display:

1. Press PRINT SCREEN to open the **Print** dialog box (*Figure 7-1*).
2. Click **OK** to print the picture.

   -OR-

   Click **Cancel** to paste the picture into a document (refer to *Obtaining a Picture to Paste* on page 7-3).

Obtaining a Picture of the Active Window

To obtain a picture of the active window:

1. Click within the appropriate window to make the window active.
2. Press ALT+PRINT SCREEN to display the **Print** dialog box (*Figure 7-1*).
3. Click **OK** to print the picture.

   -OR-

   Click **Cancel** to paste the picture into a document (refer to *Obtaining a Picture to Paste* on page 7-3).

Obtaining a Printout from the Printer

To obatina a printout from the printer:

1 Press PRINT SCREEN or ALT+PRINT SCREEN to open the **Print** dialog box.

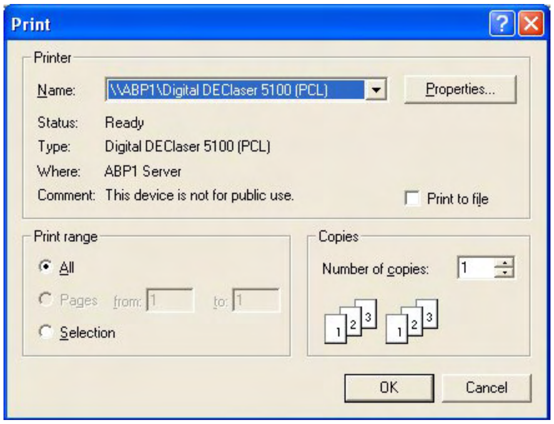


Figure 7-1: Print dialog box

2 Select the desired printer.

3 Click **OK**. The printer will print the picture of the entire screen or the active window.

Obtaining a Picture to Paste

To obtain a picture to paste:

1 Press PRINT SCREEN or ALT+PRINT SCREEN to open the **Print** dialog box.

2 Click **Cancel**.

3 Open the document into which you want to paste the picture.

4 Paste the picture into the document.

Faxing Reports

Note:

*To use the **Fax** option, you must have a modem and fax software installed.*

1 Print as you normally would (refer to *Printing the Report* on page 7-1 and *Printing Pictures of the Display* on page 7-2).

2 Select **Microsoft Fax** (Windows 98) or **Fax** (Windows 2000) as the name of the printer in the **Print** dialog box.

3 Click **OK**.

Sending Reports Via E-mail (Portable Document Format)

You can e-mail reports to recipients using either Outlook Express or Microsoft Exchange. When you send a report, the Client application creates and attaches a portable document format (PDF) version of the report to the e-mail. The PDF file can be easily viewed with Adobe Acrobat, which can be downloaded free of charge from the Adobe internet web site (*http://www.adobe.com*).

Note:

The full version of Adobe Acrobat must be purchased and installed on your computer in order to create a .pdf file and send patient reports via e-mail.

To e-mail an ABP report:

1 Create a PDF file from the report using Adobe Acrobat Distiller.

2 Highlight the PDF file in the **Report Manager** window.

Note:

To select more than one file, hold down the CTRL key.

3 Select **Send** and then select **Mail Recipient** from the **Procedure** menu.

4 Enter the e-mail recipient(s) and subject on the e-mail form.

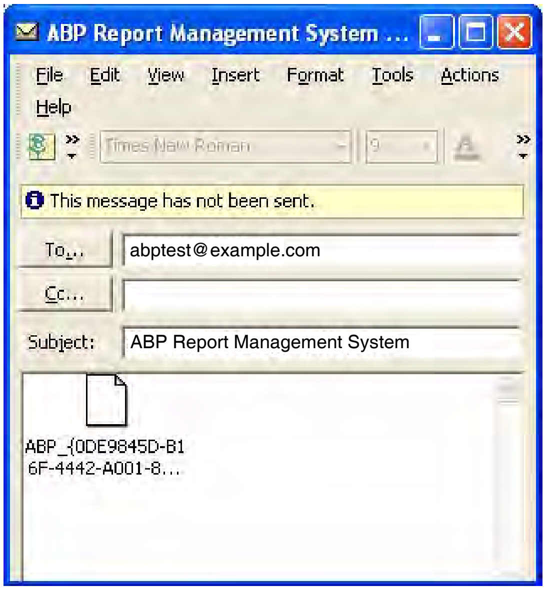


Figure 7-2: E-mail Form in Outlook Express

5 Click the **Send** button  to send the report.

Maintenance and Troubleshooting

Contents

Overview

No calibration is needed for the ABP Report Management System. For maintenance and cleaning procedures, consult the documentation that came with your workstation.

Contact an authorized field service engineer immediately if:

- The equipment is dropped or subjected to some other mechanical stress.
- Liquid is spilled on the equipment.
- The equipment is not functioning as described in this manual.
- Parts of the enclosure are cracked or missing.
- Any connector shows signs of deterioration such as cracking.

All functions of the ABP Report Management System are designed to be user-friendly and easy to understand. If questions arise or you would like additional information, contact your local representative.

Note:

Please consult the operating instructions that accompanied your monitor for event codes and additional information.

Troubleshooting

Occasionally you may encounter problems with the ABP Report Management System or related equipment.

Refer to the following table for solutions to common problems. For any questions concerning the operation or servicing of your product, contact your local representative.

Problem	Probable Cause	Solution
The application displays an “Exception error.”	The SQL server on the PC may not be running.	**1** Access the SQL Service Manager by clicking **Start** and selecting **Programs** > **Microsoft SQL Server 7.0** > **Service Manager**. **2** Ensure that the **Start/Continue** option is selected. If the option is not selected, your SQL Server is not running. **3** Click the **Start/Continue** option to start the SQL server.

Application Features

Refer to the following tables if problems are encountered with any of the features.

Main Menu

Problem	Probable Cause	Solution
The on-line manuals do not open when the F1 key is pressed.	The manuals are not installed on the PC.	**1** Navigate to the *installed\manuals* folder. **2** Check if *.pdf* files exist (manual files). **3** If the files are not present, the manuals are not installed on the PC. **4** Close the current session of the Client application and re-install from the CD-ROM.

Monitor Communications

Problem	Probable Cause	Remedy
Not able to initialize or upload the monitor.	The ABP monitor may not be connected to the PC.	• Make sure the monitor is powered ON. • Make sure the connecting cable is connected to the COM port and to the monitor. • Make sure you are choosing the correct COM port in the initialization/upload wizard.
An error message indicates, **Monitor unavailable** while initializing or uploading the monitor.	The ABP monitor may not be connected to the PC.	• Make sure the monitor is powered ON. • Make sure the connecting cable is connected to the COM port and to the monitor. • Make sure you are choosing the correct COM port in the initialization/upload wizard.
The monitor does not show any readings or time in its display.	The batteries in the ABP monitor may need to be replaced.	Replace the batteries in the monitor and check if the monitor displays correct readings. If the problem persists, contact Spacelabs Medical support.

Report Manager

Problem	Probable Cause	Remedy
The Print feature is not working.	The printer may not be installed.	**1** Click **Start** > **Settings** > **Printers**. **2** Click **Add Printer** and add the appropriate printer. **Note:** Most printing problems result in a message being displayed on the screen. Consult the operating instructions for your printer to troubleshoot these problems.
Cannot send the report via e-mail.	The report is modified to a *.pdf* file and sent to the recipient by e-mail using Microsoft Outlook Express. This operation uses the Adobe Acrobat Writer software.	Install the Adobe Acrobat Writer software and try again.

Individual Report

When a report is opened in the **Report Manager** (by double-clicking or pressing ENTER on a selected report), the report can be viewed in detail in different forms. The following table refers to possible problems with these forms.

Problem	Probable Cause	Remedy
Cannot view the raw data in tabular view.	There may have been a problem when the Client application was installed.	Re-install the application. If the problem persists, contact Spacelabs Medical support.
Cannot change the patient's details in the report.	The patient demographics may have been confirmed.	**1** Double-click the report in the **Report Manager** to access the patient's information. **2** Right-click and select **Unconfirmed Patient Demographics**. **3** Enter your login name and password. You can now modify the patient's details.

System Settings

You can access the **System Settings** dialog box may be accessed by clicking **View/Change System Settings** on the **Main Menu**. The following table refers to problems encountered in modifying the system settings.

Problem	Probable Cause	Solution
The time is displayed in a 12-hour format only. Can I change it to a 24-hour format?	You can set 12-hour or 24-hour settings for both the ABP monitor display and the report time display in the Report Manager.	**ABP Monitor Time** **1** Click **View/Change System Settings** on the **Main Menu**. **2** Select the **Monitor** tab. **3** Select 12-hour or 24-hour display. **Report Time** **1** Click **View/change System Settings** on the **Main Menu**. **2** Select the **System** tab. **3** Select 12-hour or 24-hour display (or by accessing the Windows setting).

Frequently Asked Questions

The following tables provide answers to frequently asked questions regarding the Client application. Refer to the appropriate chapters in this manual for more detailed procedures.

Initializing/Uploading Monitor

Question	Answer
What does **Initialize Monitor** mean?	**The ABP monitor must be initialized with details such as:** • At what intervals should the blood pressure be checked? • What are the allowable limits of blood pressure? • Patient details (if needed). Click **Initialize Monitor** on the **Main Menu** to initialize the monitor with these details.

Report Manager

Question	Answer
How can I associate a “new” test with an “existing” user?	**1** Click **Upload Monitor** on the **Main Menu**. **2** Click **Acquire Monitor Data** and transfer the data from the ABP monitor into the Report Management System. **3** Click **Next**. **4** Click **Search Patient** and associate the test with the patient in the database.
What is the difference between a report status that is **confirmed** versus a report status that is **non-confirmed**?	The status of the report is **confirmed** when a physician (or any user) validates and confirms the report’s details. The status of the report is **non-confirmed** when a physician has not yet validated the report. As soon as the report is transferred into the system from the ABP monitor (using the Upload Monitor feature or by importing a report), the status is set to **non-confirmed**.
How can I confirm the patient’s details?	**1** Double-click the patient’s report in the **Report Manager** to view the patient’s information. **2** Right-click and select **Confirm Patient Demographics**. **3** Enter your login name and password. The patient’s details are now confirmed and cannot be modified.

Question	Answer
How can I confirm a patient's report?	**A physician (or any user) validates and confirms the report's details as follows:** **1** Double-click a report in the **Report Manager** to view the patient's information. **2** Click **Next** twice to reach the interpretations part of the report. **3** Select your name from the **Confirmed by** list. **4** Enter your login name and password. The patient's details are confirmed and cannot be modified.
What are diary events and how do I set them?	The patient's activities can be entered at various points in time. These activities are maintained as diary activities. **1** Open the patient's report. **2** Click the **Diary** icon on the toolbar. **3** Select the time and the activity and then click **Add**.
What are annotations and how do I set them?	The medications and the diary activities of a patient may be annotated to display on the raw data graph. Select the **Annotation** check box while adding medication or while adding a diary activity.
How can I create another user profile?	**1** Click **View/Change System Settings** on the **Main Menu**. **2** Select the **System** tab. **3** Click **New User**. **4** Click **Add** on the **User List** dialog box and add the new user and details.
What are custom labels and how do I use them?	If you needs more fields than the existing patient and report detail fields, custom labels can be created. **1** Click **View/Change System Settings** on the **Main Menu**. **2** Select the **System** tab. **3** Click **Edit custom labels**. **4** Enter the desired names for the custom labels (employee number, address. etc.). **5** Select the **Report Format** tab. **6** Click **Advanced**. **7** Enable the custom labels. **8** Open a report. You should now be able to see the labels you created on the cover page.

<table>
<tr><th>Question</th><th>Answer</th></tr>
<tr><td>How can I change the way the time is displayed? (24-hour clock or 12-hour clock)</td><td>You can set 24/12-hour setting for both the ABP monitor display and also for the report time display in the Report Manager.
ABP Monitor Time
1 Click View/Change System Settings on the Main Menu.
2 Go to the Monitor tab.
3 Select 12-hour or 24-hour display.
Report Time
1 Click View/Change System Settings on the Main Menu.
2 Go to the System tab.
3 Select 12-hour or 24-hour display (or Windows setting).</td></tr>
<tr><td>What is audit information?</td><td>There are two types of audits: a System Audit and a Patient Audit. A System Audit reflects various system actions (insertion, deletion, reading) such as lists of users and available tests. A Patient Audit reflects various patient actions (insertion, deletion, reading) for patient details.
1 Click View/Change System Settings on the Main Menu.
2 Go to the System tab.
System Audit
1 Click the System Audit button.
2 Select the classification and action and click OK.
All the audit information pertaining to the selected classification and action will display.
Patient Audit
1 Click the Patient Audit button.
2 Select the application, patient type, and action, and then click OK.
All audit information pertaining to the selected application, patient type and action will display.</td></tr>
</table>

Diagnosis Tool

The **ABP Diagnosis** tool checks the Client application installed on your computer and corrects and/or reports problems. If you encounter a problem with the Client application, use the **ABP Diagnosis** tool to locate the problem and, if possible, correct the error.

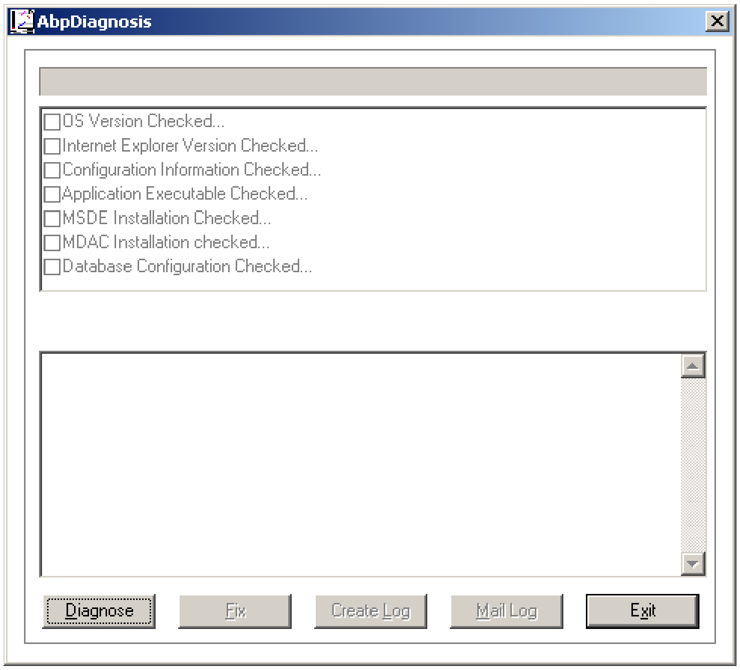


Figure 8-1: ABP Diagnosis tool

To start the Diagnosis application:

1. Insert the Setup CD into the CD-ROM drive.
2. Click **Start** and select **Programs** > **Spacelabs** > **ABPDiagnosis**.
3. Click **Diagnose** on the **AbpDiagnosis** dialog box.

   The application performs the following checks in the order listed:

   - Gathers hardware-related information about the system
   - Confirms the operating system version
   - Confirms the Internet Explorer version
   - Checks configuration information
   - Checks the application executable
   - Checks the MSDE (Microsoft Desktop Engine) installation
   - Checks the MDAC (Microsoft Data Access Components) installation
   - Checks the database configuration

   Errors encountered are classified as fixable (non-critical) or non-fixable (critical). You can correct a fixable error by clicking the **Fix** button.

Note:

The fix may involve reinstalling some parts of the Client application. Make sure the CD is in the CD-ROM drive during the diagnosis and repair process.

If the **ABP Diagnosis** tool encounters a non-fixable error, a message appears indicating that the error cannot be fixed.

4 Click **Create Log** when the diagnosis is complete to create a log file and save it on your workstation as a text file.

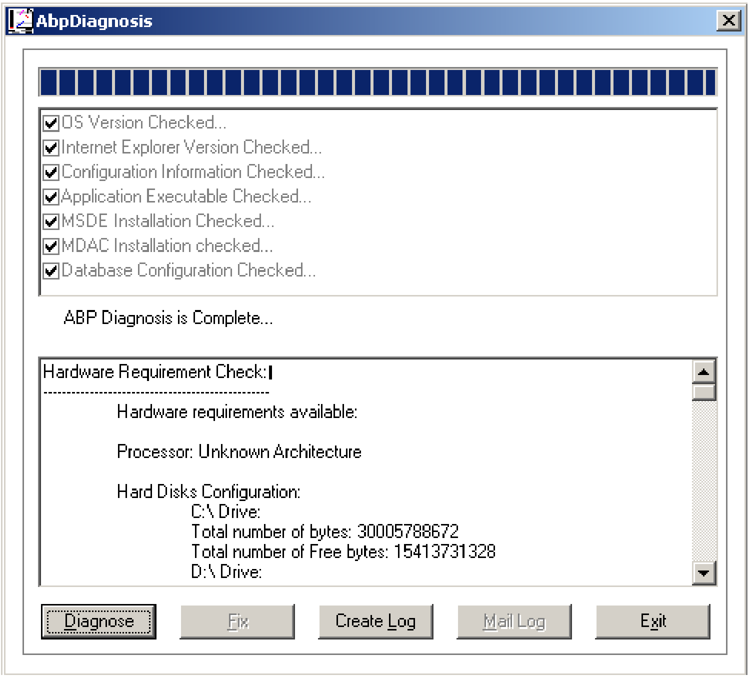


Figure 8-2: Diagnosis complete

5 If you encounter non-fixable errors, e-mail the log file to the support team by clicking the **Mail Log** button. Refer to *Figure 8-3* on page 8-10.

Note:

- *An e-mail program (for example, Microsoft Outlook) must be installed on your computer for the **Mail Log** option to function.*
- *Your personal information or patient data from your installation of the Client application is NOT transmitted with this e-mail. Only details about the error encountered and relevant data about the application are sent.*

6 Click **Send** when the **Mail** dialog box opens to mail the log file to Spacelabs Medical Global Product Support.

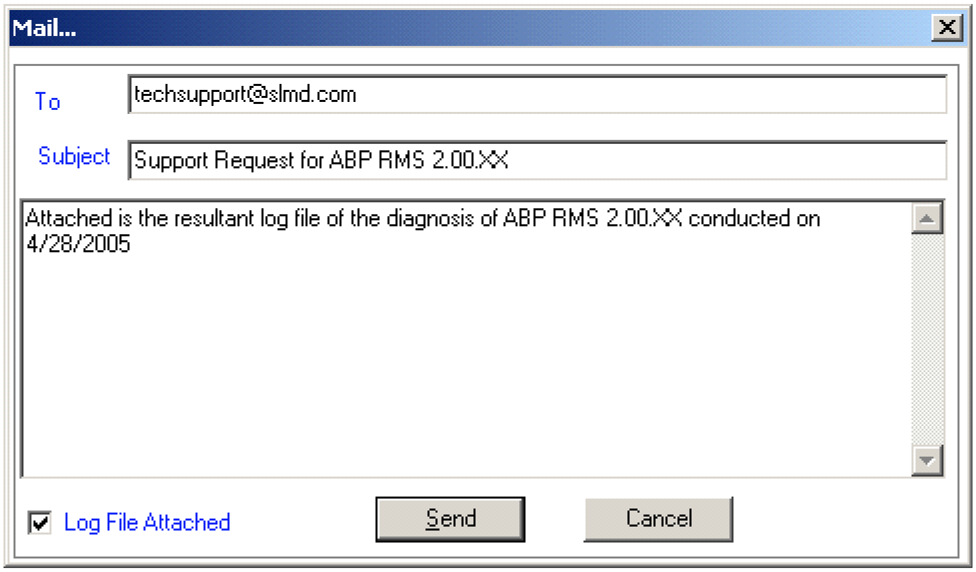


Figure 8-3: Send Diagnostics log file to Spacelabs Medical

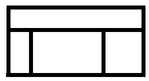
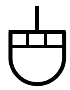
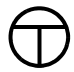
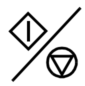
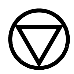
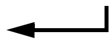
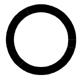
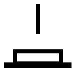
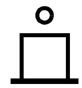
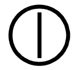
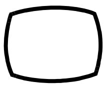
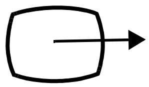
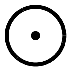
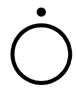
Note:

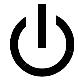
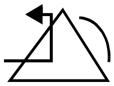
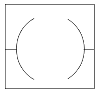
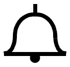
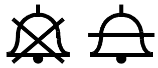
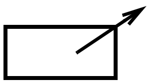
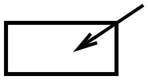
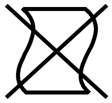
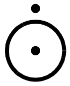
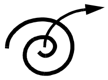
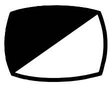
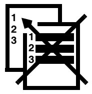
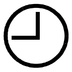
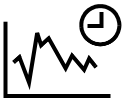
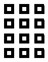
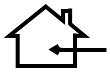
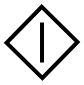
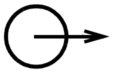
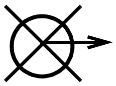
*If the following dialog box appears when you click **Send**, click **Yes** to proceed with sending the file to tech support. This is a security feature built into some e-mail client software applications.*

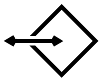
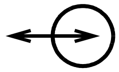
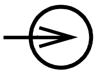
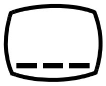
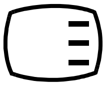
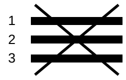
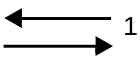
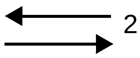
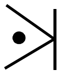
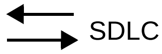
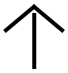
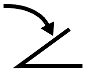
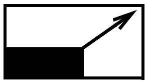
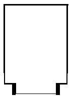
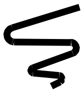
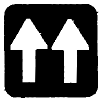
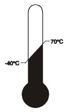
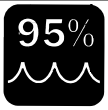
Figure 8-4: Send e-mail confirmation

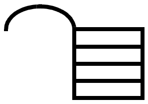
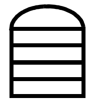
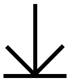
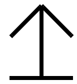
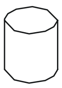
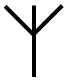
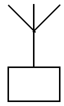
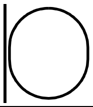
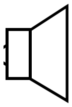
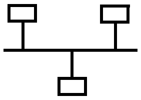
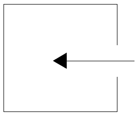
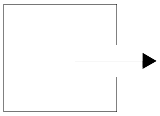
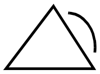
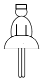
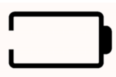
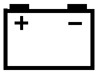
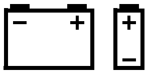
Appendix A — Symbols

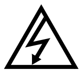
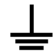
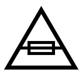
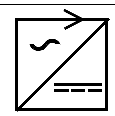
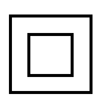
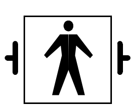
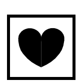
The following list of international and safety symbols describes all symbols used on Spacelabs Medical products. No one product contains every symbol.

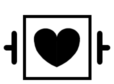
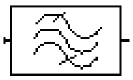
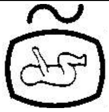
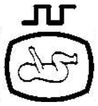
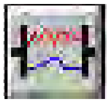
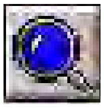
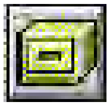
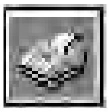
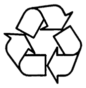
Symbol	Description	Symbol	Description
	HELP Key		Keyboard Connection
	SPECIAL FUNCTIONS Key		Mouse Connection
	RECORD Key		START/STOP Key
	NORMAL SCREEN Key		START/STOP
	MONITOR SETUP Key		STOP or CANCEL Key
	ALARMS Key		CONTINUE Key
	PREVIOUS MENU Key		ENTER Key
	ON — Power Connection to Mains		OFF — Power Disconnection from Mains
	ON Position for Push Button Power Switch		OFF Position for Push Button Power Switch
	On Direction		ON/OFF
	Television; Video Display		Video Output
	ON — Part of the Instrument Only		OFF — Part of the Instrument Only

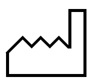
Symbol	Description	Symbol	Description
	Standby		STANDBY Key
	PAUSE or INTERRUPT		Slow Run
	Reset		Power Indicator LED
	Alarm		Temporary Shut Off of Alarm Tone or Screen Indicators
	Indicator — Remote Control		Indicator — Local Control
	PRINT REPORT Key		Indicator — Out of Paper
	Partial ON/OFF		Recorder Paper
	Normal Screen		Return to Prior Menu
	Clock/Time Setting Key		TREND/TIMER Key
	HELP (Explain Prior Screen) Key		Keypad
	Activate Recorder for Graphics		Indoor Use Only
	START (NIBP) Key		Auto Mode (NIBP)
	Output		No Output (Terminated)

Symbol	Description	Symbol	Description
	Data Input/Output		Input/Output
	Input		Reset
	Menu Keys		Waveform/Parameter Keys
	Monitor Setup Select Program Options		Set Initial Conditions Menu
	Access Special Function Menu		Return Unit to Monitor Mode
	Serial Port 1		Serial Port 2
	External marker push button connection		SDLC Port
	Arterial Pulse		Electrocardiograph or Defibrillator Synchronization
	Gas Exhaust		Foot Switch
	Enlarge, Zoom		Delete
	PCMCIA Card		Event
	Keep Dry		Fragile; Handle with Care
	Environmental Shipping/Storage Altitude Limitations		This Way Up
	Environmental Shipping/Storage Temperature Limitations		Environmental Shipping/Storage Humidity Limitations

Symbol	Description	Symbol	Description
	Open Padlock		Closed Padlock
	Down Arrow		Up Arrow
	Hard Drive		Power Indicator LED
	Antenna		Mermaid Connector
	Microphone		Omnidirectional Microphone
	Audio Output, Speaker		Activate Telemetry Recorder
	Network Connection		Universal Serial Bus
	Gas Sampling Port		Gas Return Port
	Remote Alarm; Nurse Alert		Nurse Call
	Battery Status		Low Battery
	Battery Replace only with the appropriate battery.		Replace only with the appropriate battery. (+ / - signs may be reversed)
	All batteries should be disposed of properly to protect the environment. Lithium batteries should be fully discharged before disposal. Batteries such as lead-acid (Pb) and nickel-cadmium (Ni-Cd) must be recycled. Please follow your internal procedures and or local (provincial) laws regarding disposal or recycling.		This symbol indicates that the waste of electrical and electronic equipment *must not* be disposed as unsorted municipal waste and must be collected separately. Please contact an authorized representative of the manufacturer for information concerning the decommissioning of your equipment.

Symbol	Description	Symbol	Description
	Caution - hazardous voltages. To reduce risk of electric shock, do not remove the cover or back. Refer servicing to a qualified field service engineer (U.S.A.). DANGER - High Voltage (International)		Functional Earth Ground
	Protective Earth Ground		Fuse
	Replace Fuse Only as Marked		Equipotentiality Terminal
	Power supply jack polarity. (+ / - signs may be reversed)		Direct Current
	Alternating Current		AC/DC Input
	Both Direct and Alternating Current	Hz	Hertz
A	Amperes	W	Watts
V	Volts		IEC 60601-1 Class II equipment, double-isolated. The unit displaying this symbol does not require a grounded outlet.
	IEC 60601-1 Type B equipment. The unit displaying this symbol contains an adequate degree of protection against electric shock.		IEC 60601-1 Type BF equipment. The unit displaying this symbol contains an F-type isolated (floating) patient-applied part providing an adequate degree of protection against electric shock.
	IEC 60601-1 Type BF equipment which is defibrillator-proof. The unit displaying this symbol contains an F-type isolated (floating) patient-applied part which contains an adequate degree of protection against electric shock, and is defibrillator-proof.		IEC 60601-1 Type CF equipment. The unit displaying this symbol contains an F-type isolated (floating) patient-applied part providing a high degree of protection against electric shock.

Symbol	Description	Symbol	Description
	IEC 60601-1 Type CF equipment. The unit displaying this symbol contains an F-type isolated (floating) patient-applied part providing a high degree of protection against electric shock, and is defibrillator-proof.		Adult NIBP
	Loop Filter		Canadian Standards Association Approved
	ETL Laboratory Approved		Operates on Non-Harmonized Radio Frequencies in Europe
	Risk of Explosion if Used in the Presence of Flammable Anesthetics		Attention - Consult Operations or Service Manual for Description
Note	Note	**Caution**	Caution About Potential Danger to a Device
Warning	Warning About Potential Danger to Human Beings		Fetal Monitor Connection (Analog)
	Noninvasive Blood Pressure (NIBP), Neonate		Physiological Monitor Connection RS-232 (Digital)
	Fetal Monitor Connection RS-232 (Digital)		Sad Face
	Happy Face		Compression
	Magnifying Glass		List of Rooms
	File Cabinet		Printer
	Arrows		Service Message
	Recycle		Do Not Reuse; Single Use Only

Symbol	Description	Symbol	Description
~~LATEX~~	Latex-free		Reusable
	Radio transmitting device; elevated levels of non-ionizing radiation	REF	Catalog Number
LOT	Batch Code	NE 2	Nellcor Oxisensor II Compatible
	Date of Manufacture	NV X	Novametrix Compatible
c UR us	UL recognized component in Canada and United States	TruLink®	Spacelabs TruLink Compatible
Nellcor OxiMax Works Here	Nellcor OxiMax Compatible	OxiMax	Nellcor OxiMax Compatible
Masimo SET	Masimo SET Compatible		

Abbreviations used as symbols are shown below.

Symbol	Description	Symbol	Description
1 - 32	Access Codes 1 Through 32	**AIR**	Air
ANT 1 **ANT 2**	Diversity Antenna System 1 Diversity Antenna System 2	**Arr1** **ArrNet2**	Arrhythmia Net 1 Arrhythmia Net 2
CH **ch**	EEG, EMG, or ECG Channel EEG Channels - CH1, CH2, CH3, CH4 EMG Channel - CH5	**cmH_2O**	Centimeters of Water
C.O. **CO** **co**	Cardiac Output	**DIA** **dia**	Diastolic
ECG **ecg**	Electrocardiogram	**EEG** **eeg**	Electroencephalogram

Symbol	Description	Symbol	Description
EMG **emg**	Electromyogram	**ESIS**	Electrosurgical Interference Suppression
EXT	External	**FECG**	Fetal Electrocardiogram
FHR1 **FHR2**	Fetal Heart Rate, Channel 1 Fetal Heart Rate, Channel 2	**GND** **gnd**	Ground
HLO **hlo**	High-Level Output	**Multiview**	Multi-Lead Electrocardiogram
NIBP **nibp**	Noninvasive Blood Pressure	**N_2O**	Nitrous Oxide
O_2	Oxygen	**PRESS** **press** **PRS**	Pressure
RESP **resp**	Respiration	**SDLC**	Synchronous Data Link Control
SPO2 **SpO2** **SpO_2** **SaO_2**	Arterial Oxygen Saturation as Measured by Pulse Oximetry	**SVO2** **SvO2** **SvO_2**	Mixed Venous Oxygen Saturation
SYS **sys**	Systolic	**T1** **T2** **T3** **T4**	Temperature 1 Temperature 2 Temperature 3 Temperature 4
TEMP **temp**	Temperature	**UA**	Uterine Activity or Umbilical Artery
VAC	Vacuum Connection	**UV**	Umbilical Venous